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ALBERTA JUNIOR COLLEGE COST STUDIES

NUMBER III FINANCING JUNIOR COLLEGES IN ALBERTA

by

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APRIL, 1970

FINANCING JUNIOR COLLEGES
IN ALBERTA

A study prepared for
The Board of Post Secondary Education
for the Province of Alberta

by

Peter J. Atherton, Ph. D.

Edmonton, Alberta
August, 1969

FOREWORD

This is the third in a series of cost studies conducted by Dr. Atherton in Public Junior Colleges in Alberta. The first two reported unit costs in two colleges during the academic year 1967-68. This study examines unit costs in four of the five colleges for the academic year 1968-69. In addition to reporting costs this study discusses in general terms a number of topics including cost analysis and college financing, and it presents a specific proposal for college financing in Alberta in the future.

The study recognizes that different approaches are currently in use in the financing of post-secondary institutions, the institutes and agricultural colleges and vocational colleges being financed under a budget approval policy, while colleges receive per pupil grants. It also recognizes that some variation exists among these institutions in the fee levels being charged. While not observing that inequities exist nor recommending that fiscal policies be identical for the three types of institutions, the study does appear to suggest that apparent differences should be explainable and defensible among colleges as well as between colleges and other types of institutions.

The findings in this study will be especially useful as a basis for determining grant levels to colleges under the terms of new legislation which removes from colleges the right to levy a tax on property in the college region.

Once again the Provincial Board is satisfied that the report meets the criteria listed in the contract. In addition, the Board

is hopeful that the findings of the study will be useful to Boards and administrators of colleges in Alberta, and in other provinces as well.

H. Kolesar
Chairman,
Alberta Colleges Commission.

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INTRODUCTION

Following the completion of the Unit Cost Analyses of Mount Royal and Grande Prairie Junior Colleges for the year 1968, the Provincial Board of Post Secondary Education for the Province of Alberta decided to initiate a second and more comprehensive study of the current operations of junior Colleges in Alberta.

This report is the result of that decision and has two major purposes:

1. To provide a series of unit cost analyses of the operations of all five of the currently operational junior colleges in Alberta including:

    Mount Royal Junior College
    Grande Prairie Junior College
    Medicine Hat Junior College
    Red Deer Junior College
    Lethbridge Junior College

2. To provide, on the basis of the above cost analyses, a series of recommendations covering the financing of junior colleges in Alberta for the period 1969 - 1970 and for the subsequent five year period to 1975 - 1976.

Basic data for the cost analyses of Medicine Hat, Red Deer and Lethbridge Junior Colleges were gathered by Mr. W. Workman of the Department of Educational Administration as part of the requirements for his M. Ed. Degree.

Though advance notification was provided to Grande Prairie Junior College as to the data required for the cost analysis, a number of difficulties pre-

vented the college from supplying the data. When the required data does become available, a supplement to this report will be published. It is not considered that data from Grande Prairie are likely to influence materially the conclusions of this report.

There are some differences in the methodology of the studies based on Mr. Workman's data and the Mount Royal study. However, the difference is primarily the stage at which proration was made. Final program costs are comparable in all studies.

SECTION A

UNIT COST ANALYSES

CHAPTER I

COST ANALYSIS -- A GENERAL DISCUSSION

An examination of expenditure patterns is sometimes referred to as a cost analysis. Such analysis has long been prevalent in the business community, where expenditures are shifted to the object manufactured and/or for sale. It is, however, a recent technique in educational finance, with some of the first analyses of educational expenditures being attempted during the 1920's. One reason for this apparent tardiness could well be the difficulty experienced in defining an educational 'product'.[1]

An early milestone in educational cost analysis occurred in 1935, when the National Committee on Standard Reports for Institutions of Higher Education[2] published a series of analytical procedures to be followed by American colleges and universities. Individual universities, perhaps following the lead of the above committee, did begin to examine their expenditures[3]; it does not appear, though, that the practice has become widespread in the United States or, for that matter, in Canada. In the same vein, the second purpose of the National Committee On Standard Reports was to induce standardization in cost analysis format among the institutions performing the analyses; again, this purpose does not appear to have been fulfilled.

Generally, the depth of a cost analysis will vary from institution to institution, the authorities realizing differing needs for cost analysis.

Thus, E. Eikman outlines a gross methodology[4], whereas J. Evans prescribes an extremely detailed technique.[5] Indeed, the particular technique used by a cost analyst may be a combination of several schemes, depending on the scope and nature of the expenditures being subjected to analysis.[6]

The technique usually employed in unit-cost studies involves the gathering of three sets of data:[7] (a) direct expenditures, (b) implementary expenditures, and (c) auxiliary statistics such as the number of pupils enrolled in courses. The expenditure data from (a) and (b) provide the dividend, and the data from (c) the divisor, for the computations of unit-costs. It is seen, then, that the adequacy of a cost analysis technique is generally dependent upon the total volume of data to be handled, and specifically dependent upon the physical and financial size of the institution involved, the time and resources available to the analyst, and the use which will be made of the outputs;[8] variations in these factors contribute to the idiosyncratic nature of each unit-cost study.

At the outset of planning a cost analysis, two decisions must be made: (1) it must be determined whether actual or budgeted expenditures are to be used as input data,[9] and (2) the form in which outputs are to be expressed must be determined. While the first decision depends on the financial complexity of the institution and the system of accounting in use, the second decision rests largely on the format of the input data. According to J. D. Millett, ". . . cost data for analytical purposes are most meaningful when presented in terms of

educational programs."[10] It is thus implied that some form of program or performance approach should be used in both the collection and treatment of data.[11]

The overall structure for the treatment of the three sets of data referred to above is typically as follows: all expenditures for an institution are collected, and determined to be direct or implementary in nature; these expenditures, through direct assignment or proportionate allocation, are attributed to instructional units such as programs and courses; unit-costs may then be derived at the pupil, course, or program level.

The analysis of direct expenditures is the most straightforward aspect of educational cost analysis and consists in the allocation of course expenditures. Instructional salaries, instructional supplies, laboratory equipment and clerical and professors' salaries account for the major part of such expenditures. However, there are two possible methods of computing instructional salary cost per student in junior college programs. The first method is based on a straight per student basis resulting in proportionate sharing of instructional expenditure by all programs. The second method is based on the assumption that there are courses basic to any given program and that the cost of providing such course should be charged to that program but that these same courses may enrol students from other programs without increasing the cost of providing such courses. If, however, enrolment in the courses from students in other programs increases to the point where it is necessary to provide additional sections, then the

cost of the extra sections should be charged to the other programs.

The first method was selected as being more appropriate for this study since the intention was to provide an estimate of cost per student year rather than per program. It may also be noted that the first method permits the isolation of high cost low enrolment courses, the identification of which may be overlooked when using the grosser measure.

Since the usual goal of a cost analysis is the conversion of the sum of all institutional expenditures (capital, operational, or both) to some measure of "product cost", the expenditures associated with activities supportive to instruction must be allocated to instructional programs and/or courses.[12] A second reason for such allocation, especially in larger institutions, relates to the "purchasing" of the services of universities and colleges by external agencies; in order to determine an accurate price for, say, a research project, the university or college administrator must account for the costs of all activities necessary for the completion of that project.[13]

Basically, it is the method by which implementary expenditures are allocated which differentiates one cost analysis design from another. These differences in design result from the selection, for each analysis of

> . . . a justifiable method of allocating the costs of general administration, student services, staff welfare and services, public service and information, general institutional expense, library expense, and physical plant expense to instructional programs without incurring burdensome analytical procedures and expense.[14]

Although there are a number of specific allocation methods in use[15], three categories suffice for a general classification scheme. These categories are constructed essentially on the basis of depth of analytical computation, this in turn reflecting differing views of the allocation process. In the discussion which follows below, it is useful to consider a number of implementary departments A, B, C, . . . whose expenditures are to be allocated to instructional programs I, II, III, ...

The straight-line method. The straight-line method assumes a linear relationship between (1) quantities of implementary services consumed by each program, and (2) the amount of implementary expense to be allocated to each program. This method entails the use of only one base in allocation; in other words, implementary expenditures are allocated solely on, say, a "per pupil", a "per square foot of instructional area", or "per faculty member" basis.

Operationally, if a program enrolled 17% of the pupils of an institution, and if a "per pupil" base were in effect, then that program would be allocated 17% of the total implementary expense of the institution. Further allocation of that program's share of implementary expense could be made to the course level, with the same base or another base in effect.

This method fits easily into the design of a methodology, for the use of only one base throughout an analysis (1) permits the carrying of arithmetic multipliers through the entire sequence of computations, and (2) allows the analyst to use data which he obtains during the normal course of a unit-cost study. The collection of many other auxiliary data, often either meaningless or unavailable, is not necessary.[16]

On the other hand, the relative simplicity of this method may lead to loss of accuracy and detail. For example, if a "per pupil" base were employed in the allocation of all implementary departments, it would not be entirely appropriate to use this base in the allocation of the expenses of, say, a Purchasing Department; that Department's expenditures might relate more directly to the "dollar volume of program expenditures" than to the "number of pupils per program", and therefore the "dollar volume" base might be more justifiable than the "per pupil" base.[17] In a similar vein, large irregularities in class sizes could lead to a distorted distribution of physical plant expenses, if only a "per pupil" base were used.

The straight-line method was used by Atherton in his study of Mount Royal Junior College which, except for the initial allocation of Library, Counselling, and Health Services expenditures, all allocation was done using a "per pupil" base.

The Primary Use Plan. The Primary Use Plan is an attempt to refine the straight-line method, in order to increase the aspect of equity. Essentially this Plan has many bases in effect simultaneously (thereby constituting a "standard"), and the expenses are allocated to instructional programs according to the standard in effect for each implementary department.[18]

As an example, consider the office of the Registrar, and hypothesize that the expenses of this office (say, $15,000.00) are to be allocated as follows: 50% by pupils per program, 30% by dollar volume of expenditures per program, and 20% by number of Faculty members per program. Thus, of the $15,000.00, $7,500.00 would be distributed

among the programs on the basis of pupils per program, $4,500.00 on the basis of dollar volume of expenditure per program, and $3,000.00 on the basis of faculty members per program.

The advantage of this method over the straight-line method is its facility to accommodate anomalous circumstances; a program having relatively few pupils, but a relatively large clerical staff, would receive a more appropriate share of the total implementary expenditures by the use of both "number of clerical staff per program" and "number of pupils per program" as bases than by the use of, say, "number of pupils per program" alone.

The major technical difficulty of this method appears to arise during the creation of standards for implementary departments: how many bases ought to be utilized (this is partially a function of the availability of data, as mentioned earlier), and how is the relative weight of each base determined? In other words, it would appear that the determination of standards involves the complete resolution, on a time basis, of each implementary department's activities; this well could be an insurmountable difficulty.[19]

A second problem is noted during an examination of any implementary department's activities, namely, that some of this activity is directed towards other implementary departments rather than to instructional programs. Thus, some Physical Plant expenditures, for example, should be allocated to implementary departments as well as to instructional programs; such allocation does not occur under the Primary Use Plan.

The Progressive Primary Use Plan.[20] The Progressive Primary Use

Plan is essentially the Plan described immediately above, but contains two refinements of the Primary Use Plan: (i) implementary expenses, while being allocated to instructional programs, are also allocated to the implementary departments; this allocation is made, with a standard for each department in effect, in the first of two computational runs; (ii) a roster of all implementary departments and instructional programs is constructed, with the implementary departments grouped (for convenience in computing) at the head of the roster; the only figures on the roster are the implementary expenses of each department as awarded in (i). In the second of the two computational runs, the expenses of the first department listed are distributed, by the use of the standards in effect, to all the departments and programs below the first department on the roster; these expenses are thus completely allocated, and the procedure is followed again successively through all the implementary departments. There then remain only the instructional programs and the expenses allocated to each of them in this second run. The sum of these second-order expenses and the expenses ascribed to each program in the first run (including direct costs, of course) constitutes the total expense of each program.

While the Progressive Primary Use Plan is felt to be the most accurate of the three methods which have been described in this section[21], the depth of treatment afforded by its computational complexity appears to be particularly relevant to large institutions where many implementary departments are found, each responsible for a considerable volume of expenditure. The allocation of implementary expenditures, as in former studies reported here, followed the "straight-line" method, with a

"per pupil" base in effect throughout. The following reasons are given in justification of the use of this method: (1) there was no evidence to show that gross irregularities existed among pupil-instructor ratios for programs, and a measure of pupil enrolment therefore reflected a measure of use of supportive departments; (2) the implementary departments of the participating colleges were few in number, their activities virtually focussed on the task of instruction; any required compensation for inter-departmental allocation (as in the Progressive Primary Use Plan) would thus be minimal; and (3) since the outputs for the colleges were to be compared, a common basis of allocation was desirable; since the setting of each college differed from that of the other two colleges, the only common base feasible was a "per pupil" base.

FOOTNOTES TO CHAPTER I

[1] Glaze, T.E., *Business Administration for Colleges And Universities*, (Baton Rouge: Louisiana State University Press, 1962), p. 128.

[2] National Committee On Standard Reports For Institutions of Higher Education, *Financial Reports For Colleges and Universities*, (Chicago: The University of Chicago Press, 1935), pp. 177-270.

[3] An historical treatment of procedural development in several American States may be found in J.L. Miller, Jr., *State Budgeting For Higher Education: The Use of Formulas and Cost Analysis*, (Ann Arbor: The University of Michigan, 1964), Chaps. 4, 5.

[4] E. Eikman, "A 'Quicky' Cost Study," *College and University Business*, 30 (March, 1961), pp. 40-41.

[5] J.M. Evans, "Accounting's Progressive Primary Use Plan," *College and University Business*, 17 (September, 1954), pp. 41-45.

[6] For example, see G.E. VanDyke, "Educating Nurses In Liberal Arts Colleges And What It Costs," *College and University Business*, 10 (January, 1951), pp. 29-34.

[7] J.D. Russell, *The Finance of Higher Education*, (Chicago: University of Chicago Press, 1954), p. 138.

[8] J.M. Evans, "Total Cost of Educational Programs," *College and University Business*, 17 (September, 1954), p. 42.

[9] J.M. Evans, "Accounting's Progressive Primary Use Plan," *College and University Business*, 18 (January, 1955), p. 23.

[10] J.D. Millett, *Financing Higher Education In The United States*, (New York: Columbia University Press, 1952), p. 140.

[11] Also see P.J. Atherton, *Alberta Junior College Cost Studies Number I: Mount Royal Junior College*, (Edmonton: The Board of Post Secondary Education, 1968), pp. 8-9.

[12] J.D. Millett, *op. cit.*, p. 175.

[13] *Ibid*, p. 176.

[14] J.M. Evans (1954), *op. cit.*, p. 43.

[15] A comprehensive summary is given by G.E. VanDyke and O.H. Levine, "Allocating Indirect Expenditures," *College and University Business*, 14 (May, 1953), pp. 22-25. Also see J.M. Evans (1954), *op. cit.*, pp. 43 - 45.

[16] J.M. Evans (1955), op. cit., p. 23.

[17] J.M. Evans (1954), op. cit., p. 43.

[18] The variety of standards employed in forty dental schools is given in G.E. VanDyke and O.H. Levine, op. cit., pp. 22-25.

[19] J.M. Evans (1954), op. cit., p. 44.

[20] For a complete treatment of this Plan, including the various forms appropriate to its design, see J.M. Evans (1955), op. cit., pp. 23-27.

[21] L.H. Brammer, "A Technique for the Study of Unit Costs of Higher Education in Colleges for Teacher Education," Dissertation Abstracts, 15 (1955), p. 363. Also see J.M. Evans (1954), op. cit., p. 45.

CHAPTER II

THE SCOPE AND METHODOLOGY OF THE STUDY

This cost analysis refers specifically to two types of programs:

1. University Transfer Programs
2. Terminal or Vocational Programs

Excluded from this analysis are a variety of programs peculiar to the institution, such as summer sessions and evening programs (unless such programs were recognized for grant purposes). Also excluded were programs financed by the Federal Department of Manpower and Immigration, usually described as academic upgrading programs.

Limitations of the Study

There are two sets of limitations to a study such as the one being reported. The first set of limitations are common to any cost analysis. The second set of limitations are the result of inadequacies of data.

In connection with the first set of limitations, the following observations, taken from a previous cost analysis, are:

> The determination of unit costs has both advantages and disadvantages inasmuch as unit costs relate to the expenditures of a given course, department or curriculum, or of the number of students served in that division. It affords a more satisfactory index of financial performance than do cost expenditures. Various courses of study, departments, or colleges in the institution can be compared to other similar divisions through the use of per student costs so that the administration can determine which departments or courses of study are being developed,

> or utilized and which ones need increased appropriations; in this connection unit costs render important assistance to the administration in the preparing of the annual budget.

Perhaps of even more importance is the following statement on the place of unit cost in educational finance:

> It is obvious that all unit cost figures are open to question because of the many assumptions upon which they are necessarily based. It is also obvious that they will change with every shift of enrolment, registration, salary scale and price level. For that reason comparisons of unit cost figures even when these figures have been computed in accordance with the same formulas should be made only with great caution. Comparisons between institutions are particularly difficult, but comparisons between similar departments of the same institutions and between different years for the same institution will be of some service. No institution should be without figures of unit expense of instruction, but they should be used only with due regard for their uncertainty and complexity.[2]

The second set of limitations to a study such as this is determined by the data on which the studies are based. Although the utmost co-operation was given by participating junior colleges, it is nevertheless possible that the data may contain minor innaccuracies, either with respect to the allocation of enrolments or with respect to the classification of expenditures. Since the data was collected early in the year, it was necessary to project certain types of implementary expenditures for the remainder of the year. There is, of course, little opportunity for checking the accuracy of these data, and so the expenditure data per student may be in error by a small amount. It should be borne in mind, however, that since most expenditures in educational institutions are made for labour services employed on a 12-month basis,

no appreciable distortion is to be expected.

METHODOLOGY

There are well-defined steps in the estimations of the unit cost per pupil in each of the institutions studies:

1. Estimation of Course Costs
2. Estimates of Program Costs
3. Cost Analysis Revenue

Estimation of Course Costs

The per student cost of offering each course is compiled from two sets of cost data:

a) Direct costs of instruction

b) Indirect costs of instruction

Estimation of Program Costs

The per student cost of each program is compiled by taking the per student cost of each course prescribed by the College calendar as being requisite for a particular program and summing them. To this figure is added the per student implementary expenditure.

Cost-Revenue Analysis

The per student cost of varying programs is compared to the revenue per student. The revenue per student is compiled from two components:

1. Grants from The Board of Post Secondary Education
2. Fees paid by students.

FOOTNOTES TO CHAPTER II

[1] Atherton, Peter J., Junior College Cost Studies No. 1: Mount Royal Junior College, Edmonton: Board of Post Secondary Education For the Province of Alberta, 1968. p. 3.

[2] Ibid, p. 4.

CHAPTER III

COST ANALYSES

The actual details of the compilation of estimates of per pupil programs costs have been provided in Appendices A, B, C, and D. In this chapter are provided comparisons and analysis of categories of costs and programs costs for the various institutions which are based on the data provided in these appendices.

A. COURSE COSTS

Course costs have been estimated by taking the proportion of a faculty member's time devoted to instruction in a particular course and dividing that amount by the number of students registered in that course. To this per student figure was added a sum which reflected indirect expenditures which could be associated with the course such as instructional materials, marking and laboratory assistants. In the case of Mount Royal, it was not possible to associate certain indirect expenditures for supplies with a particular course, but these amounts are not great. Expenditures for laboratory assistants have been included in all cases.

Complete details of all courses offered in all junior colleges are provided in Table X of Appendix A, Table XV of Appendix B, Table XIX of Appendix C, and Table XXV of Appendix D. The following analyses are based on those tables.

1. Range of Course Costs

Table I sets out the range of per student course costs in the different colleges. It is obvious that there is a wide range in course costs and that the lowest per student costs are to be found in those courses with high enrollments. Conversely, high course costs may be associated with low enrollments. However, in the case of Lethbridge and Red Deer, the enrollments in the high cost courses might be considered almost normal. In these cases, the high costs reflect tutorial time, in the case of Red Deer, and in Lethbridge the course involved, Automotives 102, is one of two courses in Automotives which together occupy the time of two full-time instructors. In those cases, it may be seen that sectioning has an important influence on course costs.

Although on the whole laboratory sciences and shop courses do cost more to offer than other courses, it is noteworthy that only in the case of Lethbridge is the high cost course a shop course. In Medicine Hat, the high cost course is in Secretarial Science (a new program); in Red Deer a French course. In Mount Royal a German course is the most expensive full year course.

The low cost courses are all in the social sciences, being either sociology (Mount Royal), Psychology (Red Deer and Medicine Hat), or Human Relations (Lethbridge). It is also worth noting that high cost factors alone may not be significant, since the high cost course in Lethbridge accounts for almost twice the length of time as the three hours per week more common in other full year courses. Nevertheless, as will be seen later in the analyses, technological programs are considerably more expensive to offer.

TABLE I

RANGE OF PER STUDENT COURSE COSTS AND ENROLMENTS

College	Lowest		Highest	
	Cost	Enrolment	Cost	Enrolment
Medicine Hat	$56	36	$937	2
Red Deer	88	142	366	13
Lethbridge	52	75	789	20
Mount Royal	39	254	829	6

2. Enrolments and Cost Distribution

Tables II and III provide a further breakdown of course enrolments and costs.

a. Enrolment Distribution

Table II shows the total number of full year courses offered at each college, together with the distribution by numbers and percentages of enrolments.

As may be expected, the largest college, Mount Royal, has the highest percentage of courses with a total enrolment of 30 and above. At the same time, Mount Royal also has the highest percentage of courses enrolling less than nine students. This finding suggests that whilst economies of scale may be achieved through large total enrolments, the increase in total enrolments makes it necessary to provide more alternatives which may not be as well supported as in colleges with more limited enrolments.

The difference in distribution between Medicine Hat and Red Deer is also worth noting, although both colleges have similar programs and enrolments. In Medicine Hat some 66 per cent of the courses offered enroll fewer than 30 students, and 50 per cent have fewer than 20 students. In Red Deer, just over half the courses have fewer than 30 students. In Lethbridge 60 per cent of the courses have fewer than 30 students, with 45 per cent of the courses enrolling fewer than 20 students. It is also clear that, with the exception of Mount Royal, all the colleges conduct the bulk of their courses with enrolments of between ten and 30.

Perhaps one of the more significant aspects of this table is the lack of any well-defined pattern. One cannot say that the distribution of enrolments is influenced strongly by the size of the college. The Medicine

TABLE II

BREAKDOWN OF FULL YEAR COURSES BY ENROLMENTS

College	Total Enrolment	Total # of Courses	Enrolments							
			1-9		10-19		20-29		30+	
			#	%	#	%	#	%	#	%
Medicine Hat	309	47	8	17	18	38	5	11	16	34
Red Deer	373	33	0	0	6	18	10	30	17	51
Lethbridge	580	53	11	19	12	26	13	24	17	31
Mount Royal	1,331	18	4	22	2	11	1	6	11	61

TABLE III

BREAKDOWN OF FULL YEAR COURSES BY PER STUDENT COST

College	Total Enrolment	Total # of Courses	Course Costs Per Student									
			50 or less		51-99		100-199		200-499		500+	
			#	%	#	%	#	%	#	%	#	%
Medicine Hat	309	47	0	0	15	32	19	40	11	23	2	4
Red Deer	373	33	1	3	4	12	19	58	9	27	0	0
Lethbridge	580	53	1	2	7	13	25	47	18	34	2	4
Mount Royal	1,331	18	2	11	6	33	4	22	4	22	2	11

Hat distribution is bimodal, whereas the Red Deer curve shows a definite trend to an increasing percentage of courses with higher enrolments. In both colleges, enrolments are similar. Again, Mount Royal shows a bimodal distribution, although total enrolment is almost four times that of Red Deer or Medicine Hat. In Lethbridge, a similar distribution curve to Red Deer may be seen, although enrolments and programs are very dissimilar.

b. Cost Distribution

Table III provides details of the distribution of instructional costs per course.

Again, as was to be expected, the largest college showed the highest percentage of low cost courses and, as was noted with the enrolment distribution, the highest percentage of high cost courses. It may be reasoned that factors which accounted for enrolment distributions helped to account for the cost distribution.

This table shows that the distribution of course costs for Medicine Hat and Red Deer are more similar than the enrolment distributions. In both colleges some 70 per cent of courses cost between \$51 and \$199 with the bulk of these falling in the range between \$100 and \$199. In the case of Lethbridge, the emphasis is on the higher range with 81 per cent of courses costing between \$100 and \$499, with 34 per cent of the courses costing more than \$200. Examination of Table XIX in Appendix C reveals that a substantial proportion of those courses costing more than \$200 per student are to be found in the

School of Technology where student contact hours are heavy and course enrolments lower. At Mount Royal only 55 per cent of the courses were in the range of $51 to $199, but the effect on total cost is lessened by the relatively high proportion of courses costing less than $50.

Again, it is not easy to discern any pattern in the distribution of course costs, although it does appear that the courses in Technology are more expensive, by virtue of the lengthier student contact hours and low enrolments, than the typical University Transfer program. Later examination of program costs will examine this problem in more detail.

One specific factor which effects course costs is the level of salary. The mean annual salaries for full-time instructors at Medicine Hat, Lethbridge and Red Deer are $8,842; $10,389; and $10,939 respectively. Thus, even if enrolment distributions were identical in Medicine Hat and Red Deer, Red Deer costs would be some 20% higher.

3. Staff Course Costs

In Medicine Hat and Red Deer the half courses offered are primarily compulsory courses for the B. Ed. Transfer program. As such, they are low cost and would amount to less than $50 per course if offered on a full year basis. In Lethbridge and Mount Royal half courses may be the basis of program and demonstrate a similar distribution to the full year courses. There are some, however, which are worth pointing out for the difference in cost which they demonstrate.

In Lethbridge, Data Processing 240 costs $1,133 to offer to two students. In Mount Royal Chemistry 111 costs $483 to offer to five students; two half courses in Radio cost $348 each to offer to four students, whilst nursing courses are all extremely expensive. However, it must be borne in mind that nursing courses do include a time provision for supervision of practical work.

Most half year courses, however, tend to be the basis of terminal and vocational programs and it is necessary to provide a substantial variety of such courses if the programs are to meet the needs of the students.

4. Conclusions

This analysis of course costs does not provide the type of data necessary for decision-making. Only when courses are amalgamated into programs do they take on complete meaning. However, the analysis does suggest that the majority of courses being offered in the colleges have enrolments of between ten and 30 and that most courses, on a full year basis, cost between $100 and $200. In technological courses, the costs per student are somewhat higher by some 25 - 50 per cent.

It is not at all clear that any restriction as to minimum enrolments would be appropriate, since in colleges where there is a higher proportion of courses with low enrolments, there tends to be a higher proportion of courses into heavy enrolments, thus the subsidy effect generated helps to even out the differences.

It is possible that the adoption of single salary schedule for junior colleges comparable to that used by the University would tend to reduce differences in costs.

B. SUPPORTING SERVICES

Expenditures on supporting services are comprised of expenditures for Counselling Library and Health Services. Data for the expenditures were abstracted from the analyses provided in the appendices. Table IV provides details of these expenditures.

It is readily apparent that the per student costs exhibit no great degree of comparability, although the sharing of Library services with the University will, in the case of Lethbridge, account in large measure for the low cost of supporting services in the Lethbridge College.

1. Counselling

In counselling there appears to be a close relationship between the per student cost, reflecting that costs of counselling service tend to be directly associated with enrolment. However, the wide difference between Medicine Hat and Red Deer, with similar enrolments, should not be overlooked. The difference may be accounted for by the fact that in Medicine Hat counselling is the part time assignment of one faculty member, whereas in Red Deer Counselling is a full time assignment.

2. Library

A much greater range of cost may be seen in library expenditures. This may be expected, however, since there is a degree of "lumpiness" involved in the provision of library services. That is to say, there must be a minimum expenditure on library, perhaps the employment of a full-time librarian, regardless of the size of the institution. Such minimum expenditure may be adequate to provide service over a range of enrolments. When

TABLE IV

ESTIMATED TOTAL AND PER STUDENT EXPENDITURES ON SUPPORTING SERVICES

College	Counselling		Library		Health			
	Total	Per Student	Total	Per Student	Total	Per Student	All Services	Per Student
Medicine Hat	$ 5,641	$18	$13,382	$43			$ 19,023	$ 61
Lethbridge	20,138	35	379	1*			20,517	35
Red Deer	16,635	45	33,612	90			50,247	135
Mount Royal	51,074	38	73,602	55	$10,995	$8	135,671	101

*Library facilities shared with University of Lethbridge.

enrolments or programs offering increase beyond a certain point, the services of two full-time librarians may be required. The total expenditure will increase sharply, as will the per student costs. Thus, there need be no direct linear relationship between enrolment and cost over the short term. The expenditure in Mount Royal may be compared with last year's in which the cost ranged from $19 per student enrolled in University Programs to $64 per student enrolled in Terminal Courses. Two factors may be held to have accounted for the increase. The first is the development of the audio visual department, and the second is the general upgrading of library facilities and services. It is also interesting that the provision of health services does not add appreciably to total cost in Mount Royal where enrolment is large. The provision of Health Services is, of course, subject to the same "lumpiness" of inputs as Library services.

C. IMPLEMENTARY EXPENDITURES

As previously defined, Implementary expenditures included all expenditures which cannot be directly associated with a given course or with instruction in a program. The particular details of implementary expenditures are provided in the appendices forming part of the study. Because of the difference in methodology used in the studies, it has been necessary to abstract data from the appendices for this comparison. Thus, the implementary expenditures discussed in the section are comparable, whereas there is no direct comparability in the appendices.

Table V provides details of the per student cost of Administration, excluding expenditures for Libraries and Counselling. The data for Red

TABLE V

DETAILS OF IMPLEMENTARY EXPENDITURES

College	Total	Enrolment	Per Student
Medicine Hat	91,888	309	309
Red Deer	198,096	373	531 (327 see text)
Lethbridge	350,493	580	604 (514 see text)
Mount Royal	508,533	1,330	382

Deer includes the sum of $76,186 in respect of debt retirement and interest. Since this item is not a regular payment, it might be considered that normal operating implementary expenditures could be reduced by that much. This would reduce the cost to $327 per pupil and make the cost more comparable. Similarly, there is an item for debt repayment of $52,200 at Lethbridge which would reduce per student administrative cost in that institution by some $90. The administrative overhead in the case of Mount Royal is increased by the presence of a net deficit on the operation of the college enterprises, including snack bar, dining room, book store, and residence.* In this case, the residence is subsidized by the other operations, but the deficit still amounts to some $19 per student. On the other hand, since Medicine Hat operates in rented accommodation, the total bill for plant operations and maintenance is somewhat lower than it would be if the College had its own premises. With these factors in mind, it would appear that the costs per student of administration bear a strong similarity with each other.

The literature suggests that we might expect to find certaim economies of scale in regard to administrative services. There is no clear evidence to support this case in the light of the present analysis, however.

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*See Appendix D.

It is also possible that dramatic economies of scale should not be expected below a level of enrolment higher than that of all colleges in the present system. In the very small college it is likely that no high degree of administrative departmentalization will exist. As a college increases in size, specialization of administrative function is likely to lead to the creation of new administrative departments and a problem of co-ordination arises. Furthermore, as a College increases the scope of its activities, both in terms of regular program offering and variety of offerings, so the burden on administration increases. This argument would tend to be supported in the present analysis since both Mount Royal and Lethbridge show per student costs higher than the smaller institutions of Red Deer and Medicine Hat.

In spite of the similarity of the cost estimates, a number of questions may be asked regarding the level of expenditures on administration:

1. Is expenditure on administration a function of the total enrolment?

2. Is expenditure on administration a function of the number of programs offered?

3. Is expenditure a function of the different type of institutional circumstances?

On the basis of the evidence provided here, one might be tempted to respond affirmatively to all three questions. That is to say, per student costs for administration increase as do enrolments and the number of programs offered. They also increase by virtue of the varying institutional circumstances, since if Mount Royal operated no residences or rented no premises, their cost would be lower.

In order to examine this question further, a breakdown of total expenditure by inputs was undertaken. Table VI presents the results of this breakdown. Again, there is no clear indication of scale economies. Lethbridge, with a higher enrolment than either Red Deer or Medicine Hat, expends a higher proportion of total expenditure on administration, although Mount Royal, with the highest enrolment of all, spends an appreciably smaller percentage on administration. Conceivably, the increased enrolment is not the only variable influencing the administrative proportion. Lethbridge offers a wider variety of programs than either Medicine Hat or Red Deer, but not quite as wide as Mount Royal. Here, then, is support for the idea that variety of programs may be as important a variable as enrolment in considering the proportion of administrative cost.

Conclusions

It is difficult to generalize because of the small number of institutions concerned, but it would appear that the smaller colleges expend some 30 per cent of their budget for administration (bearing in mind the heavy debt repayment for Red Deer) and that the largest college expends some 25 per cent (if the net deficit on residences is ignored). There would be some grounds for suggesting that the administrative proportion in Lethbridge may be somewhat high.

D. PROGRAM COSTS

Per student program costs were estimated from the data contained in Appendices A, B, C, and D. Although data are available in these

TABLE VI

BREAKDOWN OF TOTAL EXPENDITURE BY TYPES OF INPUT

College	Supporting Services		Implementary		Indirect		Instructional		Total
	Amount	%	Amount	%	Amount	%	Amount	%	
Medicine Hat	19,023	6	91,888	30	25,597	8	167,929	56	304,437
Red Deer	50,247	9	198,096	35	15,864	4	294,698	53	558,906
Lethbridge	20,517	3	350,493	46	59,065	8	327,221	43	757,297
Mount Royal	135,671	7	508,533	27	234,296	12	1,020,745	54	1,899,244

appendices for estimating the cost per student for any program, not all programs are included in this analysis. Efforts were made to present estimates for programs which were common in two or more colleges.

These results are shown in Table VII. The total per student cost per program is the sum total of prorated implementary expenditures, indirect expenditures and the instructional cost of each course comprising the program. Because the majority of programs provide for options, a maximum and minimum cost per program has been provided. The maximum cost is that program cost which would result if students chose the most expensive options and the minimum cost is that which would result if students chose the least expensive options. Obviously, most programs tend to operate programs at near minimum cost, since it is the high enrolments which contribute to the low cost.

It is interesting to note that of all the many and varied programs which are offered by all the institutions, the programs selected for inclusion in Table VII almost exhaust the possibility of comparison. This is seen of considerable importance, since any grant structure based on the cost of operating programs would need to be structured in very general terms unless it were decided to provide some basic programs at each institution.

Before commenting on Table VII, it would be appropriate to point out that because of the large debt repayment in the implementary expenditures, all program costs at Red Deer are overestimated by almost $100 per pupil. Similarly, program costs in Lethbridge are influenced by the high per student cost of implementary expenditures. Red Deer costs are also inflated by the higher per student costs of providing supporting services.

TABLE VII

RANGE OF PROGRAM COSTS IN JUNIOR COLLEGES

	Medicine Hat		Red Beer		Lethbridge		Mount Royal		
Program	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	
Agriculture	798	1,178	1,465	1,823			1,113		University Transfer Alberta
Home Economics	896	1,429	1,379	2,040			1,985		University Transfer Alberta
Dentistry, Premed	950	1,480	1,387	2,158			1,296		Univ. Trans. Alta.
Business	714	1,176	1,328	[illegible]					Univ. Trans. Alta.
Phys. Ed.	902	1,504	1,340	1,952			2,120		Univ. Trans. Alta.
B.A. General	714	1,176	1,249	2,258			1,509	1,631	Univ. Trans. Alta.
Education	656	1,258	1,388	1,890			1,189	1,281	
Journalism (Year 1)					1,491			1,187	2 year terminal
Journalism (Year 2)					1,449			1,826	
Recreation			1,235	[illegible]	1,197			[illegible]	1 year Mt. Royal
Recreation					1,275	1,460			2 years Lethbridge
Business Admin.			1,462		1,138		1;480		Year 1, 2 year program
Automotives					2,332				
Electronics					1,983				

Making allowances for the variation in cost which are a function of factors already discussed, there would appear to be reasonable similarity of the per student costs of providing comparable programs. Programs which depart widely from this gross figure are those in Technology offered at Lethbridge which are not comparable. One reason for the high cost of these programs is that the course requirements are restrictive in that students in them do not appear to be able to take advantage of low cost options. Such low cost options appear to be available for programs of a more general nature, as is evidenced by the wide difference between maximum and minimum costs in other programs. It is worth noting that in programs at Lethbridge where students may utilize options (Recreation), or where courses are common to more than one program (Bus. Admin.), the program costs fall back into the comparable range.

It would not appear to be significantly cheaper to provide University Transfer Programs in Mount Royal than in Red Deer in spite of the size of the institution. Although per student costs at the minimum level are lower in Medicine Hat, it has already been shown that implementary costs, supporting costs, and average faculty salary is lower in Medicine Hat. After accounting for these differences, which between Red Deer and Medicine Hat account for over $200 per student at both the maximum and minimum, the difference becomes less, and thus all three institutions tend to fall into line.

Table VIII provides a breakdown of program costs per institution. Caution should be exercised before making too much of the preponderance of high cost programs at Mount Royal, since these programs are not heavily

TABLE VIII

DISTRIBUTION OF PROGRAM COSTS BY INSTITUTION*

(Minimum Estimated Cost)

	Less than 1,000	1,000 1,100	1,100 1,200	1,200 1,300	1,300 1,400	1,400 1,500	1,500 +	Total
Medicine Hat	15	1		1				17
Red Deer			1	3	6	4	4	18
Lethbridge	1		2	2	5	3	4	18
Mount Royal			6	2	7	2	23	40

*This analysis includes over 90% of all programs offered and counts each year in a given program as a separate program.

enrolled. In fact, low enrolments are one of the factors causing costs to be high. Thus, 17 of the programs with per student costs in excess of $1,500 per year, account for just over 100 students. The existence of heavily enrolled programs with low per student costs generates a subsidy effect which makes it possible to offer these programs.

If one neglects the large number of high cost programs in Mount Royal and the equally substantial proportion of low cost programs in Medicine Hat, it may be seen that the greatest concentration of programs is in the $1,300 - $1,400 range. There are eight programs costing between $1,200 and $1,300 per student, and the effect of these will tend to be cancelled out by the nine programs costing between $1,400 and $1,500 per student.

In order to estimate the reliability of this figure, an attempt was made to determine the average cost per student for all colleges. By summing the total costs shown in Table VI (page 35) and dividing by the total number of students in the system, the figure of $1,357 was obtained, thus confirming the estimate.

Conclusions

In spite of the wide variety of program costs demonstrated, there is no clear evidence that University Preparation Programs have a variety of costs among the various colleges. Certain environmental variables contribute to a low range of per student costs in Medicine Hat. There is clear evidence that technological programs do cost more than more general programs and that the high costs may result from the rather structured nature of these programs which do not permit students to take advantage

of more heavily enrolled courses as options.

When all programs were considered, it became fairly evident that the true cost per student tended to concentrate within the $1,300 to $1,400 range.

E. SUBSIDY EFFECTS

It was not considered necessary to provide details of the subsidy effect generated by programs in the various colleges. However, estimates of cost revenue analysis for the colleges are provided in the appropriate appendices. A subsidy effect is generated when the per student cost of a program is less than the sum of the per student grant of $1,050 and the fee for the program. The generation of subsidy effects is necessary in some programs if new programs are to be developed within the context of the present structure.

Generally speaking, no subsidy effects have been generated at Red Deer with the result that deficits have been made up from local taxation. The same is true of Lethbridge, although the low fee per student of $65 to $90 in Lethbridge accounts for a number of the deficits. If the Lethbridge fee were equivalent to the $150 per student in Red Deer, many of the programs would develop a subsidy effect which might be sufficient to offset the very high cost technological programs. Of the programs in Medicine Hat and Mount Royal, some develop a subsidy effect and some do not, although it is noteworthy that the Fee schedule in Mount Royal is twice as high as it is in Medicine Hat or Red Deer. In Medicine Hat and Red Deer, instructional fees for most programs amount to $150, whereas in Mount Royal for equivalent programs they amount to $300.

The effect of the difference in fee structure is considerable in the consideration of overall revenue. For instance, a full year High School program in Mount Royal has a fee of $530, whereas the same program in Lethbridge costs $65. At the same fee, an additional $89,280 would be

generated for Lethbridge. However, such an increase in fees might discourage students from entering the program (as is the intentional effect in Mount Royal) and the issue becomes not one of cost but one of college policy.

The importance of the subsidy effect cannot be overestimated, since it develops a measure of fiscal responsibility and provides colleges with the freedom to introduce new programs which might otherwise have to be the subject of stringent provincial control.

F. CONCLUSIONS

This analysis has shown that despite a wide variety of environmental and local policy factors, there is a definite tendency for most programs to have a per student cost which approximates closely to the average cost per student for the system as a whole of $1,359. The only college to which this generalization does not appear to apply is Lethbridge, where the relatively high cost of technological programs raises the average.

It is possible that the similarity of cost is a function of the present grant structure, although it is not felt that this is necessarily the case, since colleges presently vary both the fee level and the amount of outside revenue, thus providing themselves with considerable leeway. More particularly:

Course Costs

1. There is a wide range of course costs which appear to be affected by three factors:

    1. Enrolment (both total and course)

2. Number and type of programs
3. Level of instructors' salaries

In order to narrow the range of course costs, it would be necessary to exercise some control over each of these variables; i.e., set minimal course enrolments, exercise discretion over the number and type of program and level of instructors' salaries. Such steps would involve increasing the amount of central control and eliminate much local decision-making.

Supportive Services

2. There is a range of per student costs which are affected by three major factors:

1. The lumpiness of the inputs
2. The range of programs
3. Local factors

It does not appear that these factors are easily controlled, even if it were considered desirable to do so.

Implementary Costs

3. There is a range of implementary costs which appears to be a direct function of two factors:

1. Total enrolment
2. Number of programs

However, there are a number of circumstances which appear to affect implementary expenditures which are a function of the local environment. There do appear to be some economies of scale, but the environmental factors, together with the enrolment and program factors, make these economies difficult to verify.

Program Costs

4. There is a range of total program costs which is less wide than might have been anticipated in view of the range of costs noted for the individual components of these programs.

5. There is evidence of the development of a subsidy effect in colleges, but variations in fee structure do not permit an adequate comparison.

G. IMPLICATIONS FOR GRANT STRUCTURE

1. It is clear that the present per student grant, together with fee revenue, is nearly adequate from an overall view. The grant of $1,050, together with an average fee of some $200, generates $1,250, only some $150 per student less than the average range of program costs.

2. It is equally clear that the same grant is more than adequate for some colleges and less than adequate for others.

In view of the number of variables which appear to influence present operating conditions and in view of the expected increases in enrolments and institutions, it is suggested that the present grant structure be changed. Such a change is considered in the next chapter.

SECTION B

FINANCING THE JUNIOR COLLEGES

CHAPTER I

A DISCUSSION OF THE BACKGROUND

1. Introduction

The increasing number of two-year colleges that have appeared in Canada and the United States during recent decades, together with their vastly expanded enrolments, have resulted in spectacular increases in capital and operational expenditures for this form of post-secondary education. The junior colleges, which have been referred to as "the liveliest growth industry in American education,"[1] have been responsible for a rapid increase in demands for funds at both the local and state (or provincial[2]) levels for college development and operations, placing additional severe strains on the traditional sources of supportive funds for public education.

Systems of support developed for the public two-year colleges vary substantially from one area to another and are determined to a large extent by the nature of college evolution within a particular area. In some states colleges are almost exclusively locally administered and supported, sometimes as integral parts of public school jurisdictions or as local college districts, and receive little or no financial assistance or direction from central authorities. In other areas, colleges have developed as branch campuses of the universities and are financed as sub-systems of the senior institutions. In still other areas, the junior colleges have become almost entirely state supported institutions with little or no

funds for their operations derived from local sources. The United States Office of Education in 1966 categorized the public two-year colleges in the nation as shown below in Table IX.

TABLE IX

UNITED STATES TWO-YEAR COLLEGES BY INSTITUTIONAL TYPE

Institutional Type	Number of Colleges	Per Cent	Number of States by Type of Institution
Local two-year colleges	314	59.0	28
State two-year colleges	39	7.3	10
Technical institutes	43	8.1	9
Local branches and extension centres	110	20.7	16
Other	26	4.9	5
TOTAL	532	100.0	43

Source: D.G. Morrison and C.F. Witherspoon, *Procedures for the Establishment of Public Two-Year Colleges* (Washington, D.C.: U. S. Department of Health, Education and Welfare, Office of Education, 1966), pp. 4 - 6.

There are, in addition to interstate differences in the types of two-year colleges, apparently great differences among states in the level of financial support provided for such institutions. Statistics compiled by Martin and Cheek, based on 1958 figures, indicated that total state plus local government expenditures per degree-credit enrollee varied from a high of $2,115 in Indiana to $768 in New York, while the United States average was $1,239.[3]

In the following sections the various methods used to finance capital and operational expenditures in support of junior colleges are examined.

2. Capital Expenditures

The two major sources of funds used for capital expenditures for the two-year colleges are local tax revenues and general state revenues. Colleges supported by local school district authorities or local college districts normally are responsible for raising all, or a major part of, funds for site acquisition, building construction and equipment from their own resources. Some college districts have been able to finance all capital costs from special levies on a pay-as-you-go basis; more usually, however, capital funds are derived from the sale of debentures or from a bond issue and are ammortized over a period of years from current tax receipts. In most states where such capital costs for the junior colleges are raised by long-term borrowing, the amounts of debenture debt outstanding are limited by state legislation to a stated fraction of the assessed valuation of the local college area. In New Jersey, for example, the total indebtedness of county college districts may not exceed one-half of one per cent of the equalized valuation of property in the county. In Michigan, the maximum figure is fifteen per cent of the assessed value of taxable property in the district. It is also customary practice to require a referendum of ratepayers before a local college board may proceed with the arrangements for such indebtedness.

The amounts of capital costs for which local college districts are responsible vary from one area to another. In Colorado, where some forty per cent of operational costs are paid for by the state, there is no pro-

vision for capital outlay funds from the state. In British Columbia, capital funds are derived equally from provincial and local sources. In Florida, where all operational funds come from local effort, the entire cost of capital expenditures is borne by the state.

Capital costs for state operated colleges normally are derived exclusively from state sources. Such is the case in, for example, Minnesota and Ontario. However, in California, where all operational expenditures are paid by the state, a local district desiring to establish a junior college must provide the site, buildings and equipment needed to house the projected enrolment for the fourth year of college operations.

In rare instances, private donations are utilized for capital purposes. Initial capital funds for the Corning Community College in Corning, New York were derived in the amount of $2.5 million from the Corning Glass Works, the principal industrial employer in the town, and a matching grant from state funds.[4]

3. Operational Costs

The three major sources of operational funds for junior colleges are student fees, local government revenues, and state funds. Martorana reported in 1958 that, in the United States, more than fifty per cent of current income for local junior colleges came from local taxes, about twenty-five per cent from state funds, ten per cent from student fees, and the remainder from miscellaneous sources.[5] Federal funds have begun to be available for junior college operations both in Canada and the United States. In Canada such funds are made available to the provinces as part of the federal contribution to all post-secondary education in the provinces, and in the United States through both specific grants-in-aid and other

types of general support.[6]

Student Fees

Student tuition charges contribute a significant fraction of total operational revenues of North American two-year colleges, but there are great differences in the amounts charged in fees between areas. In California and Illinois students pay no tuition fees at all, while in Mississippi fees are charged only to students who are non-residents of the local college districts. In most states a differential fee structure is employed, with non-resident students required to pay a higher tuition than students from supporting districts.

Local Revenues

As was noted in Table IX, the majority of the two-year colleges in the United States are administered and controlled by local college districts. Operational revenues for these are largely derived from local tax sources. College district operational revenues raised at the local level are normally requisitioned from municipal authorities in the same manner as funds for local school districts. In many states enabling legislation sets an upper limit to the mill rate which may be charged to local property in support of junior colleges. In Idaho, for example, college boards may not levy taxes above eight mills. In California, any tax rate for junior college purposes above 3.5 mills must be approved by a two-thirds majority of all votes cast in a special election.

State Funds

State support for operational expenditures of junior colleges has

tended to increase more rapidly than have other college revenues, on a proportional basis, as has centralized direction and control of such post-secondary institutions. With the increase in the number of colleges and vastly expanded student enrolments in most states, it has been found necessary both to relieve some of the pressures on local tax revenue sources resulting from major increases in college expenditures, and to pay more regard to the principle of equalized educational opportunities in this field. An increasing number of states in the United States provide in their budgets for financial assistance for operational expenditures of locally operated junior colleges, and exercise control over programs, tuition fees, budgetary procedures and other college affairs through the office of the state superintendent of education or some state agency. In those states where state operated college systems have come into being, all operational funds other than those obtained from student tuition fees are paid from the general state revenues. A trend towards an increased number of such state operated colleges appears to be developing.

The amount of state aid provided to locally operated junior colleges varies considerably among states. In some instances, state support is almost non-existent, as in the case in Oklahoma and Kansas. In several states specific dollar amounts per full-time student equivalent are paid. For example, in 1960 annual per student grants amounted to $230, in Illinois, $180 in Iowa, $250 in Minnesota and $200 in Michigan. In New York state one-third of operational expenditures of two-year colleges were paid from legislative appropriations. In Florida and Washington the amount of state aid to college districts was based upon an equalization

formula and varied with the equalized assessment available to local college districts for tax revenues. In California an equalization formula was utilized along with grants which in 1960 were in the amount of $125 per student in average daily attendance. In Texas and North Carolina colleges were provided with state funds only in respect to students enrolled in programs that were transferable to senior educational institutions.

Swenson, writing in 1964, reported that state tax funds are increasingly being looked to as the chief source of support for locally operated junior colleges. He noted that three states provided between 50 and 74 per cent of current support for local junior colleges, fourteen furnished between 25 and 49 per cent, four less than 25 per cent, and eight states provided no support for the local colleges.[7]

In such states as Massachusetts and Rhode Island where state junior college systems have developed, all revenues other than student fees are secured from state funds. In some such instances, funds are paid to the college on a per student enrolled basis; in others, budgets are scrutinized and approved by state agencies or the legislatures and appropriations made from state funds on this basis.

In Canada the recently established provincial college systems in Ontario and Alberta are financed entirely from student fees and provincial revenues. The Colleges of Applied Arts and Technology in Ontario receive provincial funds on a budget approval basis. Budgets prepared by the local college boards are forwarded to the Department of Education of the Province for the approval by the Minister of Education. Available funds are apportioned from provincial revenues to the separate institutions on the

basis of approved expenditures. According to provincial spokesmen, attempts are being made to develop a formula for the distribution of grants to these colleges, but serious difficulties are encountered in establishing equitable support programs because of local differences in program offerings, enrolments, staff qualifications, and other factors. In Alberta provincial funds are distributed to college boards on the basis of per student grants.

Wattenburger noted that state support programs for junior colleges should provide for all elements of costs necessary for a good college program. He pointed out that small colleges have larger per student costs than larger institutions, that some programs are more expensive than others, that certain administrative and counseling services are essential even in small colleges, and that colleges experiencing rapid growth and enrolment increases require additional support.[8]

One method that has been suggested to apportion state funds to junior colleges which takes into consideration such extra cost factors as those mentioned by Wattenburger is to determine basic per student grants to the colleges in the normal manner,[9] and then to determine for each particular college in the state a factor calculated by an impartial consideration of all the extra cost circumstances of each college. For example, the factor for College *A* in "normal" circumstances would be 1.0; for College *B* with small enrolments it might be 1.3; for College *C* with an unusual number of high cost technical programs, 1.4; and for College *D* experiencing rapid expansion, 1.7. Thus, if the basic per student grant was $1,000, the grant per student to College *A* would be $1,000, to College *B* - $1,300, to College *C* -

$1,400, and to College D - $1,700.

In a few states of the U.S. more precise formula, based upon objective cirteria, have been devised for the distribution of state funds for operational purposes to the various institutions of higher learning in the state. Normally the formula that is used is based upon cost analysis of previous institutional budgetary experience. Such formula tend to have several advantages: they focus attention on specific cost items, such as faculty salary expenditures, administration costs, library expenditures and other such factors which are obviously necessary in such institutions; they use quantifiable data which can be precisely determined; they tend to reduce interinstitutional rivalry for funds; and they can be easily justified to legislators and other officials involved in the distribution of state funds. In those U.S. states which have employed such a system, there are wide differences in the formula that are used. However, in general, they tend to base budgetary appropriations on such specific factors as:

a. Instructional costs, determined by formula based on student-staff ratios in various programs, and average salary per staff member;

b. Administrative costs - usually as a percentage of the base instructional costs;

c. Library - based either as a percentage of the base instructional costs, or on a librarian:student ratio multiplied by the average salary of librarians;

d. Operation and maintenance of physical plant - determined as a percentage of the base instructional costs or a set amount per square foot

of floor space.

Other factors that may be included in such formula are: allowances for extension and community service work, research, student health services, secretarial staff, and the like.

Six states - California, Florida, Kentucky, Oklahoma, Tennessee and Texas - have made use of a formula system for the distribution of funds to state supported institutions of higher learning. However, of these six, only Oklahoma has a system of state operated junior colleges; in the others junior colleges are locally supported. Hence, experience in the effectiveness of this method of distribution of state funds in the support of junior colleges is very limited.

Some serious limitations of such formula have been noted:

1. They are based upon previous cost analysis figures and projected data, which may have little application in a system that is undergoing rapid change, as has occurred with junior colleges in recent decades;

2. Ideally, such formula are used for budget distribution by state agencies only, while the allocation of funds within individual institutions remains the prerogative of the institutional boards and administrators. However, in practice, such state-wide formula tend to have an effect upon the institutional allocation of funds;

3. Formula, and the cost analysis upon which they are based, have limited value in policy making, because of the need for fiscal officials and educational administrators to base decisions on other important considerations, many of which involve value judgments concerning the importance of educational objectives.

4. Observations

There are three basic methods of distributing provincial support to junior colleges:

1. A per pupil grant
2. A formula grant
3. Budget approval

Each of these methods should be examined in the Alberta context before considering a grant structure which might be appropriate.

Per Pupil Grant

A fixed per pupil grant approach is based on the implicit assumption that operating conditions in each college are so sufficiently similar that all colleges would be able to function effectively on the basis of the grant. A further assumption which is implied is that differences in operating costs in the various institutions are the results of misallocation of resources and that there is some external level of expenditure which can be identified and used as a support figure. The preceding cost analyses do not suggest that these assumptions can be supported. The setting of a per student figure invariably must be undertaken using some average figure which can only result in inequity for those colleges which have high cost figures resulting from inabilities to achieve economies of scale due to low enrolments, a location factor. Alternatively, those colleges who can avail themselves of such opportunities are provided with subsidies which they do not need.

It may also be borne in mind that the use of a fixed per pupil grant is most suitable where there is a system of shared cost. That is to say, where there is an alternative source of local revenue which may be put to use in making up deficiencies. In a system of provincially

financed junior colleges the only alternative source of revenue for colleges is fee revenue. It is highly likely, therefore, that a per student grant based on average practice and which is inadequate for smaller colleges would place the burden of financing additional services upon the very students whom the colleges wish to attract. There is also a strong possibility that this type of grant may discourage experimentation in programs which may be of high initial cost.

Formula Grants

The use of formula in determining the amount of financial support is adequate only when there is a high degree of comparability among the institutions and there is definite evidence that some optimal relationship among various cost factors may be found. It presupposes that the rather general relationships which occur as the result of cost analysis are stable over time and that the status quo provides an optimal distribution. Again, the preceding cost analyses do not support the general contention. Furthermore, it is likely that any relationship, once established, is likely to lose accuracy the newer the colleges, and the more rapid their rate of growth, factors relevant to the Alberta scene.

Formulae tend to be difficult to compute and, because of their specificity, frequently have a control on the allocation of resources in the institution even though no formal controls are exercised within the institution by the granting authorities.

Budget Approval

This system is already in use in the Institutes of Technology and Agricultural Colleges in this province, as well as in Ontario. A budget

approval system is the only one which ensures that all the factors which may result from differences in scale on location may be taken into account. It permits a high degree of local decision-making, although in highly structured organizations such as government departments, it can lead to a high degree of central control. One of the chief arguments against such a system is the danger of fiscal irresponsibility on the part of units in the system. There is the danger that when the time comes to allocate the total funds available, arguments used to support individual claims may be something less than rational. A further problem involved in this type of approach is the difficulty in determining future budgetary needs from the central government.

5. Conclusions

The straight per pupil grant and the formula system of apportioning funds are strong inasmuch as they provide for central control over the level of total expenditure and provide a measure of fiscal equity. They are weak inasmuch as they cannot take into account local variations and tend to utilize past experience as the basis for achieving an optimal allocation within institutions. There is also the problem to be faced that if the grant is inadequate and additional sources of revenue unavailable substantial deficits may occur.

The budget approval system tends to be strong where the formula approach is weak and vice versa. One solution to the problem of choice of approach would be to conduct a system which includes the strongest features of both approaches.

FOOTNOTES TO CHAPTER I

[1] Russell Lynes, "How Good are the Junior Colleges?", Harper's Magazine, Vol. 233, No. 1398 (November, 1966), p. 53.

[2] Canadian experience in the development of two-year colleges has closely followed developments in the United States, and college systems that have developed in Canada have tended to be very similar to models found in the U.S. In this chapter the words "state" and "province" have similar meanings.

[3] James W. Martin and Dolores S. Cheek, Comparative State and Local Government Expenditure for State Institutions of Higher Education, (Lexington, Ky.: University of Kentucky, March 1960), Table 5.

[4] William L. Perry, "Financing Corning Community College," Establishing Junior Colleges, (Occasional Report No. 5, School of Education, University of California, Los Angeles, January, 1964), pp. 131-4.

[5] S. V. Martorama, "Patterns of Organization and Fiscal Support in Public Two-Year Colleges," Higher Education, Vol. 14, No. 9 (May, 1958).

[6] Vide: J. L. Wattenbarger, "Implications of New Developments in Economics and Public Finance for Community College Administration," Buffalo Studies, Vol. 2, No. 1 (june, 1966), p. 95.

[7] Robert E. Swenson, "Guidelines for Financing New Junior Colleges," Establishing Junior Colleges, (Occasional Report No. 5, School of Education, University of California, Los Angeles, January, 1964), pp. 125-9.

[8] Establishing Legal Bases for Community Colleges, (American Association of Junior Colleges, Washington, D.C., 1962).

[9] One method for this is to multiply per student costs based on the previous year's expenditures by an index for rising costs due to inflation, increased salaries, etc.

CHAPTER II

A PROPOSED APPROACH

The proposed approach is presented with the following assumptions as basic:

1. That the next five years will be largely a developmental period in the history of post secondary education for the province.

2. That it is desired to maintain as loose a control over the development of programs in the junior colleges as is consistent with fiscal responsibility.

3. That colleges will continue to demonstrate the variety of operating conditions as at present.

4. That it is desired to maintain some measure of fiscal equality with those institutions now filling the function of post secondary institutions but not included in the present structure.

5. That the need to develop a balanced program of offerings at the junior college level can be met by thorough consultation and policy formulation at the senior administrative level.

1. General Statement

The proposed structure is intended to provide a maximum of local autonomy within a number of formal constraints. It is proposed that junior colleges be financed on the basis of approval of annual budgets, provided that definite requirements are met. The general requirements are noted below and discussed

more fully in a following section.

a. Preliminary Requirements

1. Budgets be prepared to cover activities offered by colleges and presented in program format.

2. Residences be excluded from present budgets and financed separately.

3. Manpower programs presently being financed directly from Federal sources should be integrated with the general budget.

4. Instructional Aids and Supplies, including library books, should be financed through capital budgets provided they have a life expectancy in use of more than one year.

b. Budget Constraints

1. A variable limit on F.T.E. Faculty/F.T.E. Student Ratio

2. A limit to the percentage of total expenditures which may be expended on Administration and overheads.

3. Colleges should be required to raise a fee revenue of a given average sum per F.T.E. student.

4. Annual increases in total budget should be limited to a figure based on a percentage increase in expenditure per F.T.E. student. This would be set annually by the Chairman of the Post Secondary Education Commission.

5. Colleges be permitted to incur deficits not exceeding a small percentage of their total budget and include this as a separate item in the following year, provided that the budget meets the other requirements. Similarly, colleges should be permitted to accrue a surplus of a small percentage of their total budget without restricting allowances for the next budgetary year.

2. Discussion

a. Preliminary Requirements

1. The preparation of budgets in a program format would have at least two advantages. It would require that colleges exercise a continuing control over program enrolment and development and would provide the Commission with a continuing measure of comparability on which to base policy decisions. It is not, however, absolutely necessary that the format be utilized. Only those programs provided on a full time basis would be elligible for grant purposes, whether held during day or evening. It would therefore be necessary for evening programs of general interest and summer sessions to be excluded from the budget presented for grant purposes. To facilitate planning, it is suggested that the budgetary year be July 1 to June 30.

2. Since not all colleges provide residence facilities, the subsidy required for operation of these should not be met out of monies required for financing programs. The problems of financing residences should be considered separately.

3. This requirement should preserve consistency.

4. This requirement does not depart from present practice.

b. Budget Constraints

1. Faculty Student Ratio

Student ratio is primarily a control measure. It will require that colleges prepare estimates of enrolment in advance and that the total number of F.T.E. be known. It is suggested that forcing the colleges to make this type of estimate will influence the number of options to be offered, before colleges are faced with the problem of offering courses

only to have them under-enrolled. It is apparent from the cost analyses that the high cost of specific programs is as much an effect of the number of options provided as the total enrolment in a program. It is suggested that F.T.E. Faculty be defined in terms of a weekly work load of student contact in terms of course work. In this connection counselling, librarians and program development personnel would not be included in the Faculty ratio. This would permit colleges to develop these activities, the cost of which do not have a linear relationship with enrolments. It is not envisioned that defining the F.T.E. Faculty Ratio would prove to be exceptionally difficult to administer. Enrolment data are available at registration time, and Faculty data would be available from payroll and contract data.* It is envisioned that the variable F.T.E. Faculty/F.T.E. Student ratio would be structured in such a way as to provide continuing opportunities for new program development. An example of how this concept might be applied is provided below:

> F.T.E. Faculty = 1:15 F.T.E. Student for the first 80% of total F.T.E. enrolment, and 1:10 F.T.E. Student for the remaining 20%. Thus, in a college with 600 students, the F.T.E. faculty would be computed as follows:
>
> 80% of 600 at 1:15 = 32
> 20% of 600 at 1:10 = 12
> 44

It is also suggested that this ratio might be further varied so as to provide a higher proportion for smaller colleges and a lower proportion

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*It would be suggested that all junior colleges be required to provide the Commission with a copy of a contract or facsimile for each Faculty member, noting the basis of employment in hours per week.

for larger institutions thus:

For colleges less than 300 F.T.E. Student: 75% at 1:15
25% at 1:10

For colleges of more than 1,000 F.T.E. Students: 90% at 1:15
10% at 1:10

It may be noted that using the 80%/20% figure on enrolments of 1968 - 1969 the picture would be:

	Simulated	Actual F.T.E. (including sessionals)
Red Deer	28.0	32
Medicine Hat	24.0	23
Lethbridge	43	38
Mount Royal	95.0	125

This constraint would always provide for the development of new programs, but would also tend to lead colleges to increase the subsidy effect of other programs of a more established nature. It might also be noted that this approach would encourage the utilization of sessional and part time instructors.

2. Administrative Percentage

Administration and Overheads would need to be defined in such a way as to include the cost of administrative release time of teaching personnel, but exclude the costs of guidance, library and new program development personnel.

The choice of a percentage figure would be somewhat arbitrary, but it

would appear from the cost analyses that 25 - 30 per cent is not an unreasonable limit for expenditures. However, it is clear that increasing enrolments provide opportunities for taking advantage of economies of scale in Administration, so it may be suggested that the percentage limit for administration and overheads be structured inversely to the size of the institution. It is seen that some economies might be obtained in the larger institutions by substituting E.D.P. systems for more labour intensive methods.

3. Fee Revenue

The amount of revenue which a college should be required to raise from any particular program should not be fixed, since it should be possible for colleges to adjust the fees for particular programs to encourage or discourage registration in particular programs using a market approach. However, to preserve some measure of equity between colleges, the average fee per student should be the same across a whole system. No particular figure is suggested, but to preserve a further measure of equity across the system of post secondary education, it would be preferable to make the proportion of fee revenue raised approximately the same as the proportion of fee revenue to total expenditure in the Institutes of Technology and the Colleges of Agriculture. The fee revenue would be deducted from the total budget of the following year.

4. Annual Increases

It is recognized that the availability of funds for junior college development will depend to a large extend on monies available at the provincial level. The use of a per student base will facilitate planning

at the Provincial level in terms of budgetary requisitions for the next five year period. The use of the per student base will also facilitate the maintenance of a measure of equity across the junior colleges inasmuch as it will accommodate the effect of enrolment increases on the total budget of the different institutions.

Increases in total budget apart from those resulting from increased enrolment will be influenced by changes in the level of service provided (already contained by F.T.E. Student-Faculty Ratios) and increases in the price level of inputs. To provide colleges with an indication of a fixed per annum permissible increase in total budget might lead to demands for increased salary levels on the part of faculty and administrative staff which might not reflect market conditions.

5. Surplus and Deficit Provisions

It is not possible to prepare budgets so exactly that no surplus or deficit may be anticipated for the forthcoming year. As a consequence, it should be permissible for colleges to incur slight deficits on the annual operation not exceeding some small percentage (say one per cent). Nor should they be forced to restrict operations the following year because of the deficit carried forward. On the other hand, it is suggested that allowing colleges to carry an operating surplus for the following year would serve as an incentive to retain control over their operations in the current year. This provision would appear particularly necessary for colleges in the first years of operation.

The above system would provide a considerable degree of institutional flexibility coupled with a measure of inter-institutional equity. It is

relatively simple to administer and understand. It should force institutions to develop their own analytic systems and provide the basis for the Commission to prepare reasonable estimates of revenue and expenditure at the provincial level. There is a possibility that the system be considered as weak in control, but it may also be pointed out that a more highly developed audit system utilizing procedures and personnel employed full time by the Commission, together with a standardized reporting system would tend to increase control without decreasing flexibility. It may also be borne in mind that when colleges are dependent entirely upon Provincial sources for most of their revenue, a formula type of grant structure might lead to annual deficits being reported in some colleges, while others have abundant revenue.

3. Temporary Provisions

Since it would require some time for the institution of the system outlined above, it is suggested that for the next academic year the present system, with some adjustment, be continued.

Since an increase in enrolments may be anticipated in all colleges, it may be assumed that any increase in cost resulting from increases in salaries of instructors could be abosrbed. Nevertheless, it is important to recognize that the property tax will no longer be a source of revenue. Based on an average cost per full time student of $1,357 and allowing some 2 per cent per student increase in operating cost, it might be suggested that the average per student cost might increase to $1,380. However, this average figure is not particularly influenced by the high cost of technological

programs, but such programs are important to Lethbridge. It is therefore suggested that these programs be financed at a higher level. Since these are problems of fee differentials, these may be taken into account.

Therefore, it is suggested that the Provincial Grants be set at $1,375 per full time student enrolled in a general or University Preparation program and $1,575 per student enrolled in Technological and Nursing Programs. The total grant for each college should be net of an amount equal to the fee revenue in each institution.

APPENDIX A

MEDICINE HAT

MEDICINE HAT JUNIOR COLLEGE

During the period under study, Medicine Hat Junior College had a pupil population of 309, and a faculty composed of four administrators and seventeen full-time and sessional instructors. Fifteen of its nineteen offered programs were of a university-transfer nature; the remaining four programs included Secretarial Science, Business Administration, Academic Upgrading, and University Preparation (Matriculation). Since its inception in 1965, the College has occupied one wing of Medicine Hat High School; this has precluded the necessity of a "physical plant" department, since these premises have been rented.

TABLE XI

INDIRECT EXPENDITURES BY INSTRUCTIONAL DEPARTMENT

MEDICINE HAT JUNIOR COLLEGE

Instructional Department	Supplies	Equipment	Salaries	Total
Biology	$1,364.69	$1,306.71	-	$2,671.40
Bus. Admin.	51.45	-	-	51.45
Chemistry	500.87	58.05	$1,200.00[a]	1,758.92
Drama	278.35	223.33	-	501.68
Economics	51.45	113.53	-	164.98
English	80.62	-	-	80.62
French	157.85	14.84	-	172.69
German	75.05	-	-	75.05
Mathematics	54.45	233.30	-	287.75
Phys. Ed.	963.90	894.66	-	2,858.56
Physics	208.88	149.06	1,200.00[a]	1,557.94
Psychology	230.15	1,191.80	-	1,421.95
Secretarial Sc.	277.39	1,127.05	1,147.88[b]	2,552.32
Total	$4,295.10	$5,312.33	$3,547.88	$13,155.31

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[a] Laboratory Assistant

[b] Department Head Release Time

TABLE XII

DIRECT COSTS AT THE COURSE LEVEL

MEDICINE HAT JUNIOR COLLEGE

Course	No. of Pupils	Allocated Salary[a]	Indirect Expenditures[b]	Total Direct Expenditures	Direct Cost per Pupil
Acct. 101	32	$3,471.81	$ -	$3,471.81	$108.49
Acct. 201	12	2,284.87	-	2,284.87	190.40
Biology 100	18	3,551.84	593.64	4,145.48	230.31
Biology 200	63	7,114.36	2,077.76	9,192.12	145.91
Bus. Admin. 101/102	24	2,097.78	11.54	2,109.32	87.89
Bus. Admin. 103	3	2,097.78	1.44	2,099.22	699.74
Bus. Admin. 111/112	13	2,097.78	6.25	2,104.03	161.85
Bus. Admin. 121/122	22	1,543.03	10.57	1,553.60	70.61
Bus. Admin. 131/132	5	2,097.78	2.40	2,100.18	420.04
Bus. Admin. 141[c]	20	677.55	4.81	682.36	34.12
Bus. Admin. 142[c]	20	949.55	4.81	954.36	47.71
Chemistry 130	27	2,428.05	609.27	3,037.32	112.49
Chemistry 230	36	7,271.17	811.46	8,082.63	224.52
Chemistry 250	15	3,285.01	338.19	3,623.20	241.55
Comm. & Change		969.34	-	969.34	
Data Proc. 101/102	14	2,772.00	193.62	2,965.62	211.83
Drama 220	9	3,984.18	501.68	4,485.86	498.43
Economics 100	16	2,666.59	36.62	2,703.21	168.95
Economics 200	56	5,333.18	128.36	5,461.54	97.53
Ed. Admin. 261[c]	83	1,421.62	-	1,421.62	17.23

[a] From Table V
[b] From Table III
[c] Four-month Course

TABLE XII (continued)

Course	No. of Pupils	Allocated Salary[a]	Indirect Expenditures[b]	Total Direct Expenditures	Direct Cost per Pupil
Ed. Fdn. 201[c]	82	$1,000.00	$ -	$1,000.00	$12.12
Ed. Psych. 212	71	4,027.36	885.87	4,913.23	69.20
Eng. Mech. 202	7	1,924.98	-	1,924.98	275.00
English 111	41	3,814.34	13.63	3,827.97	93.37
English 140	33	3,984.18	9.88	3,994.06	121.03
English 240	181	12,263.50	60.31	12,323.81	68.08
English 288	20	2,602.94	6.68	2,609.62	130.48
French 100	15	2,298.22	64.76	2,362.98	156.94
French 200	15	2,003.14	64.76	2,067.90	137.86
French 201	10	2,003.14	43.17	2,046.31	204.63
German 200	7	1,000.00	75.05	1,075.05	153.58
Geography 201	12	1,000.00	-	1,000.00	83.33
History 105	25	1,393.68	-	1,393.68	55.74
History 205	66	2,415.71	-	2,415.71	36.60
Math 100	31	1,933.53	70.21	2,003.74	69.64
Math 111	36	1,933.53	81.72	2,015.25	55.98
Math 211	60	3,867.06	135.82	4,002.88	66.72
P.E. 203[c]	16	653.47	144.95	798.42	49.90
P.E. 204	14	1,633.68	126.92	1,760.60	125.76
P.E. 205[c]	16	653.47	144.95	798.42	49.90

[a] From Table V

[b] From Table III

[c] Four-month Course

TABLE XII (continued)

Course	No. of Pupils	Allocated Salary[a]	Indirect Expenditures[b]	Total Direct Expenditures	Direct Cost per Pupil
P.E. 218	87	$3,623.57	$788.85	$4,412.42	$50.71
P.E. 228	55	2,940.62	498.59	3,439.21	62.53
P.E. 311[c]	17	653.47	154.05	807.52	47.50
Physics 100	12	1,924.98	445.24	2,370.22	197.52
Physics 200	15	1,924.98	556.35	2,481.33	165.42
Physics 240	15	1,924.98	556.35	2,431.33	165.42
Pol. Sc. 200	30	2,666.59	-	2,666.59	88.88
Psych. 202	43	2,013.68	536.08	2,549.76	59.29
Sec. Proc. 221/222	15	1,574.89	207.45	1,782.34	118.23
Sec. Sc. 101/102	10	1,801.80	517.50	2,319.30	231.93
Sec. Sc. 111/112	11	3,349.50	569.25	3,918.75	356.25
Sec. Sc. 230/231	16	2,425.50	829.40	3,254.90	203.43
Shorthand 211/212	2	1,846.42	27.66	1,874.08	937.04
Typing 10/20/30	9	976.62	82.98	1,059.60	177.33
Typing 201/202	6	1,030.88	124.46	1,155.34	192.55
Total		$141,229.68	$13,155.31	$154,384.99	

[a] From Table V

[b] From Table III

[c] Four-month Course

TABLE XIII

IMPLEMENTARY EXPENDITURES

MEDICINE HAT JUNIOR COLLEGE

Item	Amount
Salaries[a]	$ 66,687.05
Clerical Supplies[b]	6,725.24
Repairs and Maintenance	2,184.76
Rental	6,000.00
Insurance	551.00
Advertising	1,916.86
Other Admin. Exp.	3,352.68
Other Instr. Exp.	4,458.96
Library (Operating)	13,382.78
Counselling[c]	5,641.71
Total	$110,911.04

[a] Includes 3 Administrators, 7 Clerical Staff.

[b] Includes Telephone, Postage, etc.

[c] Instructors #101 and #102.

TABLE XIV

PROGRAM DATA

MEDICINE HAT JUNIOR COLLEGE

Program	No. of Pupils[a]	Imp. Exp. Allocated	Total Direct Costs Min.	Total Direct Costs Max.	Total Costs Min.	Total Costs Max.	Total Cost/Pupil Min.	Total Cost/Pupil Max.
Acad. Upgrading	36.5	$ 12,084.34	$31,754.85		$27,293.43		$747.77	
Arts	42.4	14,070.80	$ 16,299.63	$ 55,410.45	$ 30,370.43	$ 69,481.25	$ 714.60	$ 1,634.85
Agriculture	1.0	331.08	467.12	847.58	798.20	1,178.66	798.20	1,178.66
Commerce	38.5	12,746.49	14,765.55	32,545.89	27,512.04	45,292.38	714.60	1,176.43
Dentistry	1.0	331.08	619.81	1,149.60	950.89	1,480.68	950.89	1,480.68
Education	82.5	27,313.91	26,832.30	76,505.37	54,146.21	103,819.28	656.32	1,258.43
Engineering	8.0	2,648.62	4,978.15	6,397.91	7,626.77	9,046.53	953.35	1,130.82
Household Sc.	2.0	662.16	1,131.54	2,197.49	1,793.70	2,859.65	896.95	1,429.82
Law	2.0	662.16	924.17	1,386.12	1,586.33	2,048.28	793.16	1,024.14
Medicine	4.0	1,324.32	2,479.24	4,588.40	3,803.55	5,912.72	950.39	1,480.68
Music	28.0	9,270.18	3,915.04		13,185.22		470.70	
Nursing	4.0	1,324.32	2,059.35	2,602.51	3,383.67	3,926.83	845.92	981.71
Pharmacy	2.0	662.16	1,391.66	1,801.55	2,053.82	2,053.82	1,026.91	1,231.85
Phys. Education	15.0	4,966.13	8,570.70	17,607.90	13,536.87	22,574.03	902.46	1,504.94
Science	35.0	11,587.72	13,423.28	45,632.14	25,011.00	57,219.86	714.60	1,634.86
Sec. Science	19.0	6,290.48	17,369.99	42,981.80	23,660.47	49,272.28	1,245.29	2,593.28
Univ. Prep.	14.0	+4,615.09	5,758.32	12,352.85	10,373.41	16,967.94	740.96	1,234.43
Total	335.0[b]	$110,911.04	$152,720.70	$339,562.45	$263,631.74	$450,473.40		

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[a] Includes part-time pupils.

[b] Includes 26 Conservatory Music Pupils.

PROGRAM COSTS

AGRICULTURE

University of Alta. (High) **	
English 240	$ 68.08
Economics 200	97.53
Chemistry 250	241.55
Physics 200	165.42
Eng. Mech. 202	275.00
	$847.58

University of Alta. (Low) *	
English 240	$ 68.08
Economics 200	97.53
Pol. Sc. 200	88.88
Math 211	66.72
Biology 200	145.91
	$467.12

University of Sask.	
English 240	$ 68.08
Chemistry 230	224.52
Math 211	66.72
Biology 200	145.91
Economics 200	97.53
Physical Education	55.29
	$658.05

LAW

Alta. (High)	
English 240	$ 68.08
French 200	137.86
Eng. Mech. 202	275.00
Economics 200	97.53
History 205	36.60
Physical Education	55.29
	$670.36

Alta. (Low) *	
English 240	$ 68.08
French 200	137.86
Math 211	66.72
Economics 200	97.53
History 205	36.60
Physical Education	55.29
	$462.08

Sask. (High) **	
English 240	$ 68.08
French 200	137.86
Eng. Mech. 202	275.00
Economics 200	97.53
Psychology 202	59.29
Physical Education	55.29
	$693.05

Sask. (Low)	
English 240	$ 68.08
French 200	137.86
Biology 200	145.91
History 205	36.60
Psychology 202	59.29
Physical Education	55.29
	$503.03

COMMERCE

Alta. (High) **	
English 240	$ 68.08
Economics 200	97.53
Psychology 202	59.29
Math 211	66.72
Drama 220	498.43
Physical Education	55.29
	$845.34

Alta. (Low) *	
English 240	[illegible]
Economics 200	[illegible]
Math 211	[illegible]
Psychology 202	[illegible]
History 205	[illegible]
Physical Education	[illegible]
	$383.51

Calgary (High)	
English 240	$ 68.08
Economics 200	97.53
Math 211	66.72
Acct. 201	190.40
Chemistry 250	241.55
	$664.28

Calgary (Low)	
English 240	$ 68.08
Economics 200	97.53
Math 211	66.72
Acct. 201	190.40
French 200	137.86
	$560.59

Sask.	
English 240	$ 68.08
Economics 200	97.53
Psychology 202	59.29
Math 211	66.72
History 205	36.60
Physical Education	55.29
	$383.51

DENTISTRY & MEDICINE

Alta. (High) **	
English 240	$ 68.08
Chemistry 230	224.52
Physics 200	165.42
Drama 220	498.43
French 200	137.86
Physical Education	55.29
	$1,149.60

Alta. (Low) *	
English 240	$ 68.08
Chemistry 230	224.52
Biology 200	145.91
Math 211	66.72
Psychology 202	59.29
Physical Education	55.29
	$619.81

[illegible]

Sask. (High)

English 240	$ 68.08
French 200	137.86
Chemistry 230	[illegible]
Economics 200	97.53
Psychology 202	59.29
Physical Education	[illegible]
	$642.57

Sask. (Low)

English 240	$ 68.08
[illegible]	137.86
Biology 200	145.91
History 205	36.60
Psychology 202	59.29
Physical Education	55.29
	$503.03

Alta. (High) **

English 240	$ 68.08
Drama 220	498.43
Chemistry 250	241.55
Eng. Mech. 202	275.00
Physics 200	165.42
Physical Education	55.29
	$1,303.77

Alta. (Low) *

English 240	$ 68.08
History 205	36.60
Math 211	66.72
Psychology 202	55.29
Economics 200	97.53
Physical Education	55.29
	$383.51

[illegible]

Sask. (High)

English 240	$ 68.08
French 200	137.86
History 205	36.60
Chemistry 230	224.52
Physics 200	165.42
	$633.48

Sask. (Low)

English 240	$ 68.08
French 200	137.86
History 205	36.60
Math 211	66.72
Biology 200	145.91
	$455.17

Alta. (High) **

English 240	$ 68.08
Drama 220	498.43
Chemistry 250	241.55
Eng. Mech. 202	275.00
Physics 200	165.42
Physical Education	55.29
	$1,303.77

Alta. (Low) *

English 240	$ 68.08
History 205	36.60
Math 211	66.72
Psychology 202	[illegible]
Economics 200	97.53
Physical Education	55.29
	$383.51

[illegible]

Alta. (High) *

English 240	$ 68.08
Ed. Fdn. 201	12.12
Ed. Admin. 261	[illegible]
Ed. Psych. 212	69.20
Drama 220	498.43
Eng. Mech. 202	275.00
Phys. Ed.	55.29
	$927.35

Alta. (Low) *

English 240	$ [illegible]
[illegible]	[illegible]
Ed. Admin. 261	[illegible]
Ed. Psych. 212	[illegible]
Math 211	[illegible]
History 205	[illegible]
Phys. Ed.	[illegible]
	$325.24

Sask. (High)

English 240	$ 68.08
Economics 200	97.53
History 205	36.60
Eng. Mech. 202	275.00
French 200	137.86
Phys. Ed.	55.29
	$670.36

Sask. (Low)

English 240	$ 68.08
Economics 200	97.53
History 205	36.60
Math 211	66.72
Biology 200	[illegible]
Phys. Ed.	55.29
	$470.11

ENGINEERING

Calgary (High) **

English 240	$ 68.08
Physics 240	165.42
Chemistry 230	224.52
Math 211	66.72
Eng. Mech. 202	275.00
	$799.74

Calgary (Low) *

English 240	$ 68.08
Physics 240	165.42
Chemistry 230	224.52
Math 211	66.72
Economics 200	97.53
	$622.27

Alta **

English 240	$ 68.08
Physics 240	165.42
Chemistry 230	224.52
Math 211	66.72
Eng. Mech. 202	275.00
	$799.74

PHYSICAL EDUCATION

[illegible] *

[illegible]ish 240	$ 68.08
[illegible]chology 202	59.29
[illegible]. Mech. 202	275.00
[illegible]ma 220	498.43
P.E. 203	49.90
P.E. 204	125.76
[illegible]. 205	49.90
[illegible] 311	47.50
	$1,173.86

Alta. (Low)

English 240	$ 68.08
Psychology [illegible]	[illegible]
Biology 200	[illegible]
Math 211	[illegible]
P.E. 203	[illegible]
P.E. 204	[illegible]
P.E. 205	[illegible]
P.E. 311	[illegible]
	$613.06

Sask. *

English 240	$ 68.08
French 200	137.86
Biology 200	[illegible]
Economics 200	97.53
Math 211	66.72
Phys. Education	55.29
	$571.39

CHEMISTRY

Alta. ([illegible]) **

English [illegible]	$ 68.08
Biology [illegible]	145.91
Chemistry 200	224.52
Chemistry 250	241.55
Physics [illegible]	165.42
Physical Education	55.29
	$900.77

Sask. (High)

English 240	$ 68.08
Chemistry 230	[illegible]
Biology 200	145.91
Physics 200	165.42
French 200	137.86
Physical Education	55.29
	[illegible]

Sask. ([illegible]) *

English [illegible]	$ 68.08
Chemistry [illegible]	224.52
Biology [illegible]	145.91
Physics [illegible]	165.42
[illegible]	35.40
Physical Education	55.29
	[illegible]

HOUSEHOLD ECONOMICS

Alta. (Low) *	
English 240	$ 68.08
Chemistry 250	241.55
[illegible]	498.43
[illegible]	137.86
Economics 200	97.53
Physical Education	55.29
	$1,098.74

Alta. (Low) *	
English 240	$ 68.08
Chemistry 250	241.55
Math 211	66.72
History 205	36.60
Economics 200	97.53
Physical Education	55.29
	$565.77

Sask.	
English 240	$ 68.08
Chemistry 230	224.52
Biology 200	145.91
Psychology 202	59.29
Economics 200	97.53
	$595.33

NURSING

Alta. * [1]	
English 240	$ 68.08
Chemistry 250	241.55
Psychology 202	59.29
Biology 200	145.91
	$514.83

Sask. **	
English 240	$ 68.08
Chemistry 230	224.52
Biology 200	145.91
Psychology 202	59.29
Economics 200	97.53
Physical Education	55.29
	$650.62

[1] Prescribed program requires one additional course which is not offered at the College.

[illegible]

Sec. Sc. 101/102	$231.93
Sec. Sc. 111/112	356.25
Sec. Sc. 230/231	203.43
Sec. Proc.	118.23
B.A. 142	47.71
English 111	93.37
	$1,050.92

[illegible]

Year # 1 (High)

Sec. Sc. 101/102	$231.93
Sec. Sc. 111/112	356.25
B.A. 142	47.71
Sec. Proc.	118.23
English 111	93.37
Drama 220	498.43
	$1,345.92

Year # 1 (Low) *

Sec. Sc. 101/102	$231.93
Sec. Sc. 111/112	356.25
B.A. 142	47.71
Sec. Proc.	118.23
English 111	93.37
Math 211	66.72
	$914.21

Year # 2 (High) **

Sec. Sc. 101/102	231.93
Sec. Sc. 111/112	356.25
Sec. Sc. 230/231	203.43
Shorthand 211/212	937.04
B.A. 141	34.12
Drama 220	498.43
	$2,261.20

Year # 2 (Low)

Sec. Sc. 101/102	231.93
Sec. Sc. 111/112	356.25
Sec. Sc. 230/231	203.43
Shorthand 211/212	937.04
B.A. 141	34.12
Math 211	66.72
	$1,829.49

TABLE XV

COST-REVENUE ANALYSIS

MEDICINE HAT JUNIOR COLLEGE

Program	Total Cost per Pupil		Fees	Grants	Subsidy Effect	
	Min.	Max.			Max.	Min.
Acad. Upgrading	$747.77		$150.00	–[a]	$597.77	
Arts	$714.60	$1,634.85	150.00	$1,050.00	$485.40	-434.85
Agriculture	798.20	1,178.66	150.00	1,050.00	401.80	21.34
Commerce	714.60	1,176.43	150.00	1,050.00	485.40	23.57
Dentistry	958.89	1,480.63	150.00	1,050.00	249.11	-280.68
Education	656.32	1,258.43	150.00	1,050.00	543.68	-58.43
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Household Sc.	896.95	1,429.82	150.00	1,050.00	303.05	-229.82
Law	793.16	1,024.14	150.00	1,050.00	406.84	175.86
Medicine	950.89	1,480.63	150.00	1,050.00	249.11	-280.68
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	
Nursing	845.92	981.71	150.00	1,050.00	354.08	218.29
Pharmacy	1,026.91	1,231.85	150.00	1,050.00	173.09	-31.85
Phys. Education	902.46	1,504.94	150.00	1,050.00	297.54	-304.94
Science	714.60	1,634.85	150.00	1,050.00	413.75	-434.85
Sec. Science	1,245.29	2,593.28	150.00	1,050.00	-45.29	-1,393.28
Univ. Prep.	740.96	1,204.42	150.00	1,050.00	459.04	-4.42

[a] Full expenses reimbursed by Canada Manpower.

APPENDIX B

RED DEER

RED DEER JUNIOR COLLEGE

During the period under study, Red Deer Junior College had a pupil population of 373, and a faculty composed of six administrators and thirty-one full-time and sessional instructors. Fifteen of its eighteen offered programs were of a university-transfer nature; the remaining three programs included Academic Upgrading, Business Administration, and Nursing (Diploma). Also during the period under study, the College was completing its first year on a newly constructed campus; as a consequence, some expenditures incurred by the College related directly to this occupancy of new quarters, and may only exist during the first few years of occupancy.

TABLE XVI

INDIRECT EXPENDITURES

RED DEER JUNIOR COLLEGE

	Supplies	Salaries	Total
All Univ. Transfer Prog. (except Nursing)	$13,640.73	-	$13,640.73
Chemistry	-	$1,306.00	1,306.00
Nursing Prog.	917.73	-	917.73
	$14,558.46	$1,306.00	$15,864.46

TABLE XVII

DIRECT COSTS PER PUPIL AT THE COURSE LEVEL

[illegible]

Course	No. Pupils	Allocated Salary[a]	Indirect Expenditures[b]	Total Direct Expenditures	Direct Cost per Pupil
Acct. 102	20	$1,440.00	$136.68	$1,576.68	$78.83
Anth. 202	36	5,082.48	246.02	5,328.50	148.01
Biol. 130	21	2,355.60	143.51	2,499.11	119.01
Biol. 230	95	16,299.36	649.23	16,948.59	178.41
Bus. Ad. 110/111	20	2,699.99	136.68	2,836.67	141.83
Bus. Ad. 130/131	20	2,699.99	136.68	2,836.67	141.83
Bus. Ad. 140/141	20	2,399.99	136.68	2,536.67	126.83
Chem. 230	119	18,691.92	1,892.55	20,584.43	172.98
Chem. 250	25	[illegible]	[illegible]	[illegible]	275.59
Economics 100/101	20	2,199.99	136.68	2,336.67	116.83
Economics 200	87	5,349.96	594.56	5,944.52	68.33
Ed. Admin. 261[c]	77	[illegible]	[illegible]	[illegible]	72.88
Ed. Fndn. 201[c]	77	5,214.78	526.22	5,741.00	74.56
Ed. Psych. 276	74	9,630.00	505.72	10,135.72	136.97
English 120[a]	30	1,476.59	205.02	1,681.61	56.05
English 121[c]	19	1,290.95	129.85	1,420.80	74.78
English 200	93	17,901.56	669.74	18,571.30	199.70
English 210	132	27,587.77	902.09	28,489.79	215.83
English 208	18	4,692.01	123.01	4,815.02	267.50
French 200	20	4,677.96	136.68	4,814.64	240.73

TABLE XVII (continued)

Course	No. Pupils	Allocated Salary[a]	Indirect [illegible]	Total Direct [illegible]	Direct Cost [illegible]
French 201	+13	$4,677.96	$88.84	$4,766.80	-$366.68
Geography 201	-48	13,518.96	328.03	13,846.99	- 288.48
[illegible]	[illegible]	10,[illegible]	[illegible]	[illegible]	[illegible]
Math. 101^c	—8	793.91	54.67	848.58	-106.07
Math. 100	+21	3,329.32	143.51	3,472.83	-165.37
Math. 201	68	8,681.84	464.71	9,146.55	134.51
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Math. 243	-15	1,608.21	102.51	1,710.72	-114.05
Math. 274	-14	3,206.79	95.68	3,302.47	-235.89
Mech. Eng.152/153	+24	5,737.26	164.02	5,901.28	-245.89
P.E. 218/228	291	15,247.44	1,988.70	17,236.14	59.23 -
Physics 200	-15	5,737.26	102.51	5,839.77	-389.32
Physics 240	-43	5,754.49	293.86	6,048.35	140.66
Pol. Sc. 200	43	5,349.96	293.86	5,643.82	-131.25
Psych. 193^a	33	1,283.99	225.52	1,509.51	— 45.74
Psych. 202	142	7,275.97	970.43	8,246.40	58.07
Soc. 202	90	5,082.48	615.06	5,697.54	53.31 -
Stats. 241^c	-12	1,608.21	82.01	1,690.22	- 140.85
Total		$245,595.92	$14,946.73	$260,542.65	

TABLE [illegible]

[illegible]

RED DEER JUNIOR COLLEGE

Department	Salaries	Supplies	Other	Total
Administration	[illegible]	[illegible]	[illegible]	[illegible]
Counselling	16,635.00	-	-	16,635.00
[illegible]	[illegible]	-	-	[illegible]
Library	33,612.42	-	-	33,612.42
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	$134,833.82	$10,511.94	$102,998.09	$248,3[illegible]

[a] Includes interest and debenture payments.

[b] [illegible]

PROGRAM COSTS

Agriculture

Min.		Max.	
English 200	$189.50	English 210	[illegible]
Economics 200	68.33	Economics 200	[illegible]
Math. 240	110.28	Math. 240	[illegible]
Stats. 241	140.85	Stats. 241	[illegible]
Chem. 230	172.98	Chem. 230	[illegible]
Psych. 202	58.07	Physics 200	[illegible]
P.E.	59.23	P.E.	[illegible]
	$799.24		[illegible]

Architecture

Min.		Max.	
English 200	$189.50	English 210	$215.83
Math. 201	134.51	French 201	366.68
Physics 240	[illegible]	Math. 207	134.51
Psych. 202	58.07	Physics 200	389.32
Soc. 202	63.31	Physics 240	140.66
P.E.	59.23	P.E.	59.23
	$645.28		$1,306.23

Arts

Min.		Max.	
Biology 130	$119.01	English 210	$215.83
Economics 200	68.33	French 201	366.68
English 200	215.83	Geog. 201	288.48
Psych. 202	58.07	Chem. 250	275.58
Soc. 202	63.31	Physics 200	[illegible]
P.E.	59.23	P.E.	[illegible]
	$583.78		$1,593.12

Business Administration

Acct. 102	[illegible]
Bus. Admin. 110/111	[illegible]
Bus. Admin. [illegible]	[illegible]
Bus. Admin. 140/141	[illegible]
Economics 100/101	[illegible]
English 120	[illegible]
English 121	74.78
P.E.	59.23
	$796.21

Commerce

Min.		Max.	
Economics 200	$68.33	Economics 200	$68.33
English 200	189.50	English 210	215.83
Math. 240	110.28	Math. 240	114.05
Math. 243	114.05	Math. 243	114.05
Psych. 202	58.07	Physics 200	389.32
Soc. 202	63.31	Psych. 202	58.07
P.E.	59.23	P.E.	59.23
	$662.77		$1,015.11

Education

Min.		Max.	
Edn. Fndn. 201	$74.56	Chem. 250	$275.58
Ed. Admin. 261	72.88	Ed. Fndn. 201	74.56
Ed. Psych. 276	136.97	Ed. Admin. 261	72.88
English 200	189.50	Ed. Psych. 276	136.97
Pol. Sc. 200	131.25	English 210	215.83
Psych. 202	58.07	Physics 200	389.32
P.E.	59.23	P.E.	59.23
	$722.46		$1,224.37

Engineering

Min.		Max.	
Chem. 230	$172.98	Chem. 230	$172.98
Economics 200	68.33	Economics 200	68.33
English 200	189.50	English 210	215.83
Math. 201	134.51	Math. 201	134.51
Mech. 152/153	245.89	Mech. 152/153	245.89
Physics 240	140.66	Physics 240	140.66
P.E.	59.23	P.E.	59.23
	$1,011.10		$1,037.43

Home Economics

Min.		Max.	
Chem. 250	$275.58	Chem. 250	$275.58
Economics 200	68.33	Economics 200	68.33
English 200	189.50	English 210	215.83
Psych. 202	58.07	French 201	366.68
Soc. 202	63.31	Physics 200	389.32
P.E.	59.23	P.E.	59.23
	$714.02		$1,374.97

Law

Min.		Max.	
Economics 200	$68.33	English 200	$189.50
English 200	189.50	French 200	240.73
French 200	240.73	History 200	190.08
Math. 240	110.28	Physics 200	389.32
Pol. Sc. 200	131.25	Pol. Sc. 200	131.25
P.E.	59.23	P.E.	59.23
	$799.32		$1,200.11

Nursing (B.Sc.)

Min.		Max.	
Biology 130	$119.01	Biology 230	$178.41
Chem. 250	275.58	Chem. 250	275.58
English 200	189.50	English 210	215.83
Psych. 202	58.07	Psych. 202	58.07
Soc. 202	63.31	Soc. 202	63.31
P.E.	59.23	P.E.	59.23
	$764.70		$850.43

Pharmacy

Min.		Max.	
Biol. 130	$119.01	Biology 230	$178.41
Chem. 230	172.98	Chem. 230	172.98
Chem. 250	275.58	Chem. 250	275.58
English 210	215.83	English 210	215.83
Physics 200	389.32	Physics 200	389.32
P.E.	59.23	P.E.	59.23
	$1,231.95		$1,291.35

Physical Education

Min.		Max.	
Chem. 230	$172.98	Chem. 250	$275.58
English 200	189.50	English 210	215.83
Pol. Sc. 200	131.25	Geog. 201	288.48
Psych. 202	58.07	Psych. 202	58.07
Soc. 202	63.31	Physics 200	389.32
P.E.	59.23	P.E.	59.23
	$674.34		$1,286.51

[illegible]

Min.		Max.	
Biology 230	$178.41	Chem. 230	$172.98
Chem. 230	172.98	English 210	215.83
English 200	189.50	Geog. [illegible]	288.48
Psych. 202	58.07	French 201	366.68
Soc. 202	63.31	Physics 200	389.32
P.E.	59.23	P.E.	59.23
	$721.50		$1,492.52

Pre-Veterinary

Min.		Max.	
Biol. 130	$119.01	Biol. 230	$178.41
Chem. 230	172.98	Chem. 230	172.98
Economics 200	68.33	English 210	215.83
English 200	189.50	French 201	366.68
Math. 240	110.28	Math. 240	110.28
Stats. 241	140.85	Stats. 241	140.85
P.E.	59.23	P.E.	59.23
	$860.18		$1,244.26

Recreation Administration

Min.		Max.	
Economics 200	$68.33	English 210	$215.83
English 200	189.50	French 201	366.68
Pol. Sc. 200	131.25	Physics 200	389.32
Psych. 202	58.07	Psych. 202	58.07
Soc. 202	63.31	Soc. 202	63.31
P.E.	59.23	P.E.	59.23
	$569.69		$1,152.44

TABLE XIX

PROGRAM DATA

RED DEER JUNIOR COLLEGE

Program	No. of Pupils	Imp. Exp. Allocated	Total Direct Costs Min.	Total Direct Costs Max.	Total Costs Min.	Total Costs Max.	Total Cost/Pupil Min.	Total Cost/Pupil Max.
Acad. Upgrading	60	$ 39,948.07	$31,309.92		$71,257.99		$ 1,187.63	
Agriculture	8	5,326.41	$ 6,400.32	$ 9,262.56	$ 11,726.73	$ 14,588.97	$ 1,465.84	$ 1,823.62
Architecture	2	1,331.60	1,290.56	2,612.46	2,622.16	3,944.06	1,311.08	1,972.03
Arts	56	37,284.87	32,691.68	89,214.72	69,976.55	126,499.59	1,249.58	2,258.92
Bus. Admin.	21	13,981.83	16,720.41		30,702.24		1,462.01	
Commerce	16	10,652.82	10,604.32	16,241.76	21,257.14	26,894.58	1,328.57	1,680.91
Education	78	51,932.49	56,350.50	95,499.48	108,282.99	147,431.97	1,388.24	1,890.15
Engineering	21	13,981.83	21,233.10	21,786.03	35,214.93	35,767.86	1,676.90	1,703.23
Home Ec.	5	3,329.00	3,570.10	6,874.95	6,899.10	10,203.95	1,379.82	2,040.79
Law	2	1,331.60	1,598.64	2,400.22	2,930.24	3,731,82	1,465.12	1,865.91
Nursing (B.Sc.)	3	1,997.40	2,294.10	2,551.29	4,291.50	4,548.69	1,430.50	1,516.23
Nursing (Dip.)	31	20,639.84	43,262.49		63,902.33		2,061.37	
Pharmacy	4	2,663.20	4,927.80	5,165.40	7,591.00	7,828.60	1,897.75	1,957.15
Phys. Education	3	1,997.40	2,023.02	3,859.53	4,020.42	5,856.93	1,340.14	1,952.31
Pre-Med.	9	5,992.21	6,493.50	13,432.68	12,485.71	19,434.89	1,387.30	2,158.32
Pre-Vet.	3	1,997.40	2,580.54	3,732.78	4,847.94	5,730.18	1,615.98	1,910.06
Rec. Admin.	2	1,331.60	1,139.31	2,304.88	2,470.91	3,636.48	1,235.46	1,818.24
Science	49	32,624.26	28,605.22	78,062.88	61,229.48	110,687.14	1,249.58	2,258.92
	373	$248,343.85	$273,365.53	$444,294.44	$521,709.38	$692,638.29		

TABLE XX

COST-REVENUE ANALYSIS

RED DEER JUNIOR COLLEGE

Program	Total Cost per Pupil Min.	Total Cost per Pupil Max.	Fees	Grants	Subsidy Effect Max.	Subsidy Effect Min.
Adult Upgrading	$1,187.63		$150.00	–[a]	$-1,037.63	
[illegible]	$1,465.24	$1,823.62	150.00	$1,050.00	$-265.24	$-623.62
Agriculture	1,311.08	1,972.03	150.00	1,050.00	-111.08	-772.03
Arts	1,249.58	2,258.92	150.00	1,050.00	-49.58	-1,058.92
Bus. Admin.	1,462.01		150.00	1,050.00	-262.01	
Commerce	1,320.57	1,620.91	150.00	1,050.00	-120.57	-420.91
Education	1,388.24	1,890.15	150.00	1,050.00	-188.24	-690.15
Engineering	1,676.90	1,703.23	150.00	1,050.00	-476.90	-503.23
Home Ec.	1,379.82	2,010.79	150.00	1,050.00	-179.82	-810.79
Law	1,465.12	1,865.91	150.00	1,050.00	-265.12	-665.91
Nursing (R.N.)	1,430.50	1,516.23	150.00	1,050.00	-230.50	-316.23
Nursing (Dip.)	2,061.37		150.00	1,050.00	-861.37	
Pharmacy	1,897.75	1,957.23	150.00	1,050.00	-697.75	-757.23
Phys. Education	1,340.34	1,952.31	150.00	1,050.00	-140.34	-752.31
Pre-Med.	1,337.30	2,156.92	150.00	1,050.00	-137.30	-956.92
[illegible]	1,615.98	1,910.06	150.00	1,050.00	-415.98	-710.06
Pub. Admin.	1,233.46	1,816.24	150.00	1,050.00	-33.46	-616.24
Science	1,249.58	2,258.92	150.00	1,050.00	-49.58	-1,058.92

[a] Expenses reimbursed by Canada Manpower, via Dept. of Education.

APPENDIX C

LETHBRIDGE

LETHBRIDGE JUNIOR COLLEGE

During the period under study, Lethbridge Junior College had a pupil population of 580, and a faculty composed of forty-one sessional and full-time instructors. Structurally, the College was composed of the Schools of Business Education, Liberal Education, and Technology, and the Division of Continuing Education. Courses and student programs generally fall under one School, although some courses were open to inter-School enrolment. During the period under study, the College was completing its twelfth year of operation, having occupied its own campus during the most recent seven years.

TABLE XXI

INDIRECT EXPENDITURES BY INSTRUCTIONAL PROGRAM

LETHBRIDGE JUNIOR COLLEGE

Instructional Program	Supplies	Equipment	Salaries	Other[a]	Total
Liberal Education	-	-	$6,333.71[b]	-	$6,333.71
Pre-University	$2,864.00	-	6,230.00[c,d]	$2,585.00	11,679.00
Journalism	724.00	-	1,315.00[d]	420.00	2,459.00
Rec. Leadership	550.00	-	176.00	345.00	1,071.00
Business Education	-	-	9,091.27[b]	-	9,091.27
Secretarial Science	1,394.00	-	845.00	1,085.00	3,324.00
Business Admin.	703.00	-	663.00	819.00	2,185.00
Tech.-Voc. Education	-	-	6,400.63[b]	-	6,400.63
Cooking	2,500.00	-	250.00	330.00	3,080.00
Welding	4,350.00	-	250.00	535.00	5,135.00
Automotive	2,630.00	-	250.00	875.00	3,755.00
Voc. Agriculture	1,643.00	-	250.00	165.00	2,058.00
Electronics	786.00	-	250.00	330.00	1,366.00
Drafting	517.00	-	250.00	361.00	1,128.00
	$18,661.00	-	$32,779.61	$7,850.00	$59,065.61

[a] Includes Travel Allowances and Employee Benefits.

[b] Administrative release time of Director of School (Table XIII).

[c] Includes Lab. Assistant's salary.

[d] Includes Marker's salary.

TABLE XXII

DIRECT COSTS AT THE COURSE LEVEL

LETHBRIDGE JUNIOR COLLEGE

Course	No. Pupils	Allocated Salary	Indirect Expenditures	Total Direct Expenditures	Direct Cost per Pupil
School of Business Education[1]					
Acct. 120	17	$1,237.50	$107.75	$1,345.25	$79.13
Acct. 121	34	1,534.50	215.49	1,749.99	51.47
Acct. 131	73	4,750.44	462.67	5,213.11	71.41
Acct. 132	66	4,794.20	418.31	4,794.20	72.64
Acct. 236	26	3,651.98	164.79	3,816.77	146.80
Acct. 237	24	3,881.88	152.11	4,033.99	168.08
Advert. 283	21	1,053.00	133.10	1,186.10	56.48
Advert. 284	21	1,053.00	133.10	1,186.10	56.48
Bus. Law 162	79	1,243.54	500.72	1,744.24	22.08
Bus. Law 166	66	2,435.94	418.31	2,854.25	43.25
Bus. Math 150	78	3,375.00	494.36	3,869.36	49.61
Bus. Math 155	63	1,328.40	399.29	1,727.69	27.42
Bkkng. 122[a]	29	3,348.00	248.68	3,596.68	124.02
Bkkng. 123	64	1,636.24	548.81	2,185.05	31.14
Cost Acct. 238	16	1,485.00	101.41	1,586.41	99.15
Data Proc. 140	14	3,592.50	120.05	3,712.55	265.18
Data Proc. 141	32	2,812.50	274.40	3,086.90	96.47
Data Proc. 149	69	2,242.50	591.68	2,834.18	41.07
Data Proc. 240	2	2,250.00	17.15	2,267.15	1,133.57
Data Proc. 245	32	1,989.00	274.40	2,236.40	70.73

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[1] All courses in this School, except those indicated by superscript "A" are of four months' duration.

TABLE XXII (continued)

Course	No. Pupils	Allocated Salary	Indirect Expenditures	Total Direct Expenditures	Direct Cost Per Pupil
Des. Lab. 285	19	$1,872.00	$120.42	$1,992.42	$104.86
Economics 151	70	1,728.00	443.66	2,171.66	31.02
Economics 152	67	1,350.00	424.65	1,774.65	26.49
English 103	72	2,457.00	617.41	3,074.41	42.70
English 110[a]	70	2,635.15	443.66	3,078.81	43.98
English 141	67	2,106.00	574.53	2,680.53	40.01
Hum. Rel. 168[a]	75	3,402.48	475.35	3,877.83	51.70
Hum. Rel. 268	57	3,315.00	488.78	3,803.78	66.74
Intro. Bus. 165	68	1,386.00	430.98	1,816.98	26.72
Market 189	64	3,473.25	405.63	3,878.88	60.61
Market. 289	21	1,170.00	133.10	1,303.10	62.05
Merch. Admin. 281	21	1,287.00	133.10	1,420.10	67.62
Merch. Admin. 282	19	994.50	120.42	1,114.92	58.68
Note Taking 116	56	1,449.33	480.21	1,929.54	34.46
Office Man. 299	18	1,534.50	114.08	1,648.58	91.59
Prin. of Fin. 271	8	1,728.00	50.70	1,778.70	222.34
Prin. of Fin. 272	9	1,317.60	57.04	1,374.64	152.74
Real Estate 274	8	1,089.00	50.70	1,139.70	142.46
Retail Acct. 239	20	1,218.75	126.76	1,345.51	67.[illegible]
Risk. & Ins. 273	8	1,138.50	50.70	1,189.20	148.65
Sales Admin. 288	18	877.50	114.08	991.58	55.09
Shorthand 110	20	1,869.98	171.50	2,041.48	102.07
Shorthand 111	39	2,010.23	334.43	2,344.66	60.12
Shorthand 210	8	1,059.49	68.60	1,128.09	141.01
Shorthand 211	11	1,059.49	94.33	1,153.82	104.89

TABLE XXII (continued)

Course	No. Pupils	Allocated Salary	Indirect Expenditures	Total Direct Expenditures	Direct Cost Per Pupil
State. 250	52	$2,047.50	$329.58	$2,377.08	$45.71
Systems 246	9	809.25	57.04	866.29	96.25
Typing 106	70	499.00	600.26	1,095.26	15.65
Typ. & O.P. 100	34	2,216.23	291.55	2,507.78	73.76
Typ. & O.P. 101	35	2,262.98	300.13	2,653.11	73.23
Typ. & O.P. 200	39	1,650.48	334.43	1,984.91	50.89
Typ. & O.P. 201	45	1,697.23	385.88	2,083.11	46.29
Sub-Total:		$104,406.54	$14,600.27	$119,006.81	
School of Liberal Education[1]:					
Biol. 90	25	5,190.98	899.66	6,090.64	243.63
Biol. 130	47	3,758.98	1,641.05	5,400.03	114.89
Chem. 90	22	5,292.00	760.58	6,052.58	275.12
Chem. 130	31	7,308.00	1,076.13	8,384.13	270.46
English 60	28	2,048.00	481.60	2,529.60	[illegible]
English 90	43	4,162.50	738.97	4,901.47	113.99
English 130	36	7,087.50	1,524.92	8,612.42	[illegible]
English 180	33	2,772.00	324.71	3,096.71	[illegible]
English 229	63	3,564.00	629.32	4,193.32	66.56
French 85	14	3,465.00	229.92	3,694.92	263.92
French 90	12	3,168.00	183.94	3,351.94	279.33
French 130	9	2,475.00	137.95	2,612.95	290.33
History 100	10	2,160.00	111.81	2,271.81	227.18
History 200	9	2,160.00	103.19	2,263.19	251.46
Journ. 100	10	1,620.00	111.81	1,731.81	173.18

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[1] All courses in this School, except those indicated by superscript "b", are of eight months' duration.

TABLE XXII (continued)

Course	No. Pupils	Allocated Salary	Indirect Expenditures	Total Direct Expenditures	Direct Cost Per Pupil
Journ. 101	10	$1,620.00	$111.81	$1,731.81	$173.18
Journ. 200	9	1,890.00	103.19	1,993.19	221.46
Journ. 201	9	1,350.00	103.19	1,453.19	161.46
Math. 80	24	3,746.25	367.88	4,114.13	171.42
Math. 85	35	3,315.00	528.81	3,843.81	109.82
Math 107	6	1,752.30	91.97	1,844.27	307.37
Math 90	67	7,705.10	1,034.64	8,739.74	130.44
Math 130	68	5,247.00	1,047.13	6,294.13	92.56
Math 131	36	3,757.50	551.80	4,309.30	119.70
Physics 90	45	4,894.50	1,568.16	6,462.66	143.61
Physics 130	37	7,290.00	1,299.60	8,589.60	232.15
Pol. Sc. 100	10	1,088.00	97.70	1,185.70	118.57
Psych. 100	31	1,728.45	304.60	2,033.05	65.58
Rec. 100	23	2,160.00	342.70	2,502.70	108.81
Rec. 101[b]	23	1,404.00	342.70	1,746.70	75.94
Rec. 102[b]	23	1,404.00	342.70	1,746.70	75.94
Rec. 200[b]	11	1,188.00	163.90	1,351.90	122.90
Rec. 204/205	11	1,944.00	163.90	2,107.90	191.62
Rec. 207[b]	11	972.00	163.90	1,135.90	103.26
Rec. 214[b]	27	517.56	403.47	921.03	34.11
Science 80	18	3,120.00	626.30	3,746.30	208.13
Science 85	20	3,120.00	687.70	3,807.70	190.38
Sec. St. 130	73	7,741.21	1,267.16	9,012.53	123.46
Soc. 100	89	3,691.09	876.44	4,567.53	51.32
Sub-Total:		$128,877.92	$21,542.71	$150,420.63	

TABLE XXII (continued)

Course	No. Pupils	Allocated Salary	Indirect Expenditures	Total Direct Expenditures	Direct Cost Per Pupil
School of Technology[1]:					
Ag. Ec. 223[a]	12	$3,529.20	$551.03	$4,080.23	$340.02
Anim. Sc. 105[a]	12	1,059.84	551.03	1,610.87	134.24
App. Dev. 102	8	4,192.50	101.19	4,293.69	536.71
Auto 100	20	6,638.44	2,130.50	8,768.94	438.45
Auto 102	20	13,668.13	2,130.50	15,798.63	789.93
Bus. Kn. 100	6	547.17	75.89	623.06	103.84
Bus. Kn. 106	6	1,575.00	75.89	1,650.89	275.15
Bus. Kn. C-103	16	1,635.52	202.38	1,837.90	114.87
Circ. Th. 132[a]	11	2,876.25	393.21	3,269.46	297.22
Design 131[a]	13	792.00	357.33	1,149.33	88.41
Draft. 130	13	5,110.60	357.33	5,467.93	420.61
Elec. 100	6	2,437.50	216.59	2,654.09	442.35
Elec. 131[a]	16	1,998.75	572.57	2,571.32	160.71
Elex. 130[a]	16	2,876.25	572.57	3,448.82	215.55
Elex. 134[a]	10	1,998.75	341.28	2,340.03	234.00
English 100	10	1,782.00	126.49	1,908.49	190.85
English 133	19	1,782.00	240.33	2,022.33	106.44
Farm Mach. 109[a]	12	2,119.68	551.03	2,670.71	222.56
Foods C-100	25	2,000.70	1,483.54	3,484.24	139.37
Kitch. C-102	25	6,010.65	1,483.54	7,494.19	299.77
Kitch. C-112	16	538.65	947.74	1,486.39	92.89
Mach. Shop 100	8	975.00	219.63	1,194.63	149.33
Mach. Th. 132[a]	21	1,462.50	580.34	2,042.84	97.28
Mach. Th. 133[a]	9	877.50	246.95	1,124.45	124.94
Materials 132[a]	6	576.00	179.95	755.95	125.99

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[1] Four-month courses in this School are indicated by superscript "a".

TABLE XXII (continued)

Course	No. Pupils	Allocated Salary	[illegible] Expenditures	Total Direct Expenditures	Direct Cost Per Pupil
[illegible]	35	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	20	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	27	[illegible]	[illegible]	[illegible]	[illegible]
Plant Sc. [illegible]	12	[illegible]	[illegible]	[illegible]	[illegible]
Science 108	6	[illegible]	[illegible]	[illegible]	[illegible]
Soil Sc. 103[a]	14	2,352.80	638.08	2,990.88	[illegible]
Struct. 134[a]	6	1,344.00	163.87	1,507.87	[illegible]
Weld. 100[c]	19	1,215.49	2,191.63	3,407.12	179.32
Weld. 102[c]	19	7,012.44	2,191.63	9,204.07	484.42
Weld. 104[c]	12	1,121.99	1,384.18	2,506.17	208.85
Sub-Total:		$93,937.08	$22,922.63	$116,859.71	
Total:		$327,221.54	$59,065.61	$386,287.15	

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[c] Six-week course.

TABLE XXIII

IMPLEMENTARY EXPENDITURES, BY DEPARTMENT

LETHBRIDGE JUNIOR COLLEGE

Implementary Department	Salaries	Supplies	Repairs or Maintenance	Overhead	Other	Total
Counselling	$17,989.50	$1,133.00	-	$48.00	$968.00	$20,138.50
Faculty Personnel	29,143.50	8,283.00	-	-	3,047.00	40,473.50
President's Office	31,495.50	2,599.00	-	199.00	10,715.00	45,008.50
Registrar's Office	14,596.50	147.00	-	39.00	204.00	14,986.50
Bursar's Office	47,832.00	1,804.00	$364.00	365.00	2,050.00	52,415.00
Maintenance	33,424.50	72.00	12,558.00	-	91,469.00[a]	137,523.50
Library	-	-	-	-	379.00	379.00
Other Admin. Exp.	-	6,406.00	-	1,480.00	52,200.00[b]	60,086.00
Total	$174,481.50	$20,444.00	$12,922.00	$2,131.00	$161,032.00	$371,010.50

[a] Includes custodial staff and security.

[b] Includes debt charges and insurance.

PROGRAM COSTS

Business Administration (Yr. 1)

Min.		Max.	
English 102	$ 42.70	[illegible]	[illegible]
Acct. 131/132	144.05	Acct. [illegible]	44.05
Ec. 151/152	57.51	Ec. 151/152	57.51
Intra. Bus. 165	26.72	Intra. Bus. 165	[illegible]
English 141	40.01	English 141	40.01
Market. 189	60.61	Market. 189	60.61
Bus. Law 166	[illegible]	Bus. Law 166	43.2[illegible]
Data Proc. 149	41.07	Data Proc. 149	[illegible]
Bus. Math. 155	27.47	Bus. Math. 155	[illegible]
Typing 106	15.6[illegible]	Psych. 10[illegible]	[illegible]
	[illegible]		[illegible]

Business Administration (Yr. 2)

Finance		Marketing	
Acct. 236/237	$314.88	Advert. 283	$ [illegible]
English 229	66.56	Advert. 284	[illegible]
Finance 271	222.34	Design 285	[illegible]
Finance 272	152.74	English 229	66.56
Hum. Rel. 268	66.74	Hum. Rel. 268	66.74
Real Estate 274	142.46	Market. 289	[illegible]
Risk. & Ins. 273	148.65	Merch. 281/282	126.30
Stats 250	45.71	Retail Acct. 239	67.28
Syst. 246	96.25	Sales Admin. 288	55.09
		Stats. 250	45.71
	$1,256.33		$707.55

Business Administration (Yr. 2)

Office Administration

Acct. 236, 237	$322.98
Cost. Acct. 238	97.15
English 229	60.46
Hum. Rel. 268	66.74
Office Man. 299	91.59
Stats. 250	45.71
Syst. 246	96.25
	$780.88

Secretarial Science

Accounting

Min.		Max.	
Acct. 120/121	$130.60	Acct. 120/121	$130.60
Bus. Law 162	22.08	Bus. Law 162	22.08
Bus. Math. 150	49.61	Bus. Math 150	49.61
Data Proc. 140	265.18	Data Proc. 240	1,133.57
English 110	43.98	English 110	43.98
Hum. Rel. 168	51.70	Hum. Rel. 168	51.70
Notetaking 116	34.46	Notetaking 116	34.46
Typ. & O.P. 200/201	97.18	Typ. & O.P. 100/101	146.99
	$694.79		$1,612.99

Pre-University

Remedial		Grade [illegible]	
Math 80	[illegible]	Math 85	$109.8[illegible]
Science 80	[illegible]	Science 85	[illegible]
English 80	[illegible]	French 85	[illegible]
	$469.89		$564.12

Grade 11

Min.		Max.	
English 90	$113.99	Biology 90	$243.63
Math 90	130.44	Chemistry 90	275.12
Phys. 90	143.61	French 90	279.33
	$388.04		$1,[illegible]

Grade 12

Min.		Max.	
Biology 130	$114.89	Chem. 130	$270.46
English 130	100.14	French 130	290.33
Math 130	92.56	Physics 130	232.15
	$307.59		$792.94

Journalism (Yr. 1)		Journalism (Yr. 2)	
English 160	$ 93.84	Ec. 151/152	$ 57.51
History 100	227.18	English 229	66.56
Journ. 100	173.18	History 200	251.46
Journ. 101	173.18	Journ. 200	221.46
Pol. Sc. 100	[illegible]	Journ. 201	161.46
Psych. 100	65.58	Soc. 100	51.32

Rec. Leadership (Yr. 1)

English 100	$ [illegible]
Psych. 100	65.58
Rec. 100	108.81
Rec. 101	75.74
Rec. 102	[illegible]
Rec. 207	103.62
Rec. 214	34.11
	$[illegible]

Rec. Leadership (Yr. 2)

Min.		Max.	
English 229	$ 66.56	English 229	$ 66.56
Psych 100	65.58	History 200	[illegible]
Rec. 200	122.90	Rec. 200	122.90
Rec. 204/205	191.62	Rec. 204/205	191.62
Rec. 207	103.62	Rec. 207	103.62
Rec. 214	34.11	Rec. 214	34.11
Soc. 100	51.32	Soc. 100	51.32
	$635.35		$[illegible]

Automotives		Cooking	
Auto Th. 100	$438.45	Bus. Know. C - 103	$114.87
Auto. Sh. 102	789.93	Bus. Math. 114	29.34
English 100	190.85	Food C - 100	139.37
Math 90	130.44	Food C - 102	299.77
Physics 90	143.61	Kitchen C - 112	92.89
	$1,693.28		$676.24

Drafting

Design 131	$ 88.41
Draft 130	420.61
English 133	106.44
Mach. Sh. 132	97.28
Mech. Th. 133	124.94
Mater. 132	125.99
Math. 132	125.15
Phys. 132	204.32
Struct. 134	251.31
	$1,544.45

Electronics

Circ. Th. 132	$197.22
Elec. 131	100.71
Elex. 130	[illegible]
Elex. 134	234.[illegible]
English 133	[illegible]
Math 132	125.15
Physics 132	204.32
	$1,343.39

Voc. Ag. (Yr. 2)

Ag. Ec. 223	$ 340.02
An. Sc. 105	134.24
Farm Mach. 109	222.56
Pl. Sc. 107	222.56
Soil Sc. 103	213.63
	$1,133.01

Welding

Weld. 100	$179.32
Weld. 102	484.42
Math 114	29.34
	$693.08

Science

Min.		Max.	
Biology 130	$119.01	English 210	$215.83
Economics 200	68.33	French 101	366.08
English 200	215.83	Geog. 201	298.48
Psych. 202	58.07	Chem. 250	[illegible]
Soc. 202	63.31	Physics 200	389.32
P.E.	59.23	P.E.	59.23
	$583.78		$1,[illegible]3.12

Secretarial Science

Data Processing

Min.		Max.	
Bkkng. 122	$124.02	Bkkng. 122	$124.02
Bus. Law 162	22.08	Bus. Law 162	22.08
Bus. Math. 150	49.61	Math 150	49.61
Data Proc. 140	265.18	Data Proc. 240	1,133.57
Data Proc. 245	70.73	Data Proc. 245	70.73
English 110	43.98	English 110	43.98
Hum. Rel. 168	51.70	Hum. Rel. 168	51.70
Notetaking 116	34.46	Notetaking 116	34.46
Typ. & O.P. 200/201	97.18	Typ. & O.P. 100/101	146.99
	$758.94		$1,677.14

Shorthand

Min.		Max.	
Bkkng. 123	$ 31.14	Bkkng. 123	$ 31.14
Bus. Law 162	22.08	Bus. Law 162	22.08
Bus. Math 150	49.61	Bus. Math 150	49.61
Data Proc. 140	265.18	Data Proc. 240	1,133.57
English 110	43.98	English 110	43.98
Human Rel. 168	51.70	Human Rel. 168	51.70
Typ. & O.P. 200/201	97.18	Typ. & O.P. 100/101	146.99
Shorthand 110/111	162.19	Shorthand 210/211	245.90
	$723.06		$1,724.97

TABLE XXIV

PROGRAM COSTS

LETHBRIDGE JUNIOR COLLEGE

Program	No. of Pupils	Imp. Exp. Allocated	Total Direct Costs Min.	Total Direct Costs Max.	Total Costs Min.	Total Costs Max.	Total Costs/Pupil Min.	Total Costs/Pupil Max.
Business Education:								
Bus. Admin. (Yr.1)	78	$ 49,894.52	$38,921.22	$ 42,815.76	$ 88,815.74	$ 92,710.28	$ 1,138.66	$ 1,188.59
Bus. Admin. (Yr.2):			$					
-Finance	8	5,117.39	$10,050.64		$15,168.03		$ 1,896.00	
-Marketing	21	13,433.14	14,858.55		28,291.69		1,347.22	
-Office Admin.	18	11,514.12	14,055.84		25,569.96		1,420.55	
Secretarial Science:								
-Accounting	24	15,352.16	16,674.96	38,711.76	32,027.12	54,063.92	1,334.46	2,252.66
-Data Proc.	32	20,469.54	24,286.08	53,668.48	44,755.62	74,138.02	1,398.61	2,316.81
-Shorthand	22	14,072.81	15,907.32	37,949.34	29,980.13	52,022.15	1,362.73	2,364.64
Liberal Education:								
Pre-University:								
-Remedial	28	17,910.85	13,156.92		31,067.77		1,109.56	
-Grade 10	35	22,388.56	19,744.20		42,132.76		1,203.79	
-Grade 11	71	45,416.80	27,550.84	56,663.68	72,967.64	102,080.48	1,027.71	1,437.75
-Grade 12	86	55,011.90	26,452.54	68,192.64	81,464.44	123;204.54	947.26	1,432.61
Journalism:								
-Year 1	10	6,396.73	8,515.30		14,912.03		1,491.20	
-Year 2	8	5,117.39	6,478.16		11,595.55		1,449.44	
Rec. Leadership:								
-Year 1	25	15,991.83	13,937.00		29,928.83		1,197.15	
-Year 2	12	7,676.08	7,624.20	9,854.76	15,300.28	17,530.84	1,275.02	1,460.90
Technology:								
Automotives	16	10,234.77	27,092.48		37,327.25		2,332.95	
Cooking	24	15,352.16	16,229.76		31,581.92		1,315.91	
Drafting	12	7,676.08	18,533.40		26,209.48		2,184.12	
Electronics	13	8,315.75	17,464.07		25,779.82		1,983.06	
Voc. Agr. (Yr.2)	14	8,955.43	15,862.14		24,817.57		1,772.68	
Welding	23	14,712.49	15,940.84		30,653.33		1,332.75	
	580	$371,010.50	$369,336.46	$519,775.72	$740.346.96	$890,786.22		

TABLE XXV

COST-REVENUE ANALYSIS

LETHBRIDGE JUNIOR COLLEGE

Program	Total Cost/Pupil		Fees	Grants	Subsidy Effect	
	Min.	Max.			Max.	Min.
Business Education:						
Business Admin. (Yr. 1)	$ 1,138.66	$ 1,188.59	$ 65.00	$ 1,050.00	$ - 23.66	$ - 73.59
Business Admin. (Yr. 2):						
-Finance	$ 1,896.00		65.00	1,050.00	$ -781.00	
-Marketing	1,347.22		65.00	1,050.00	-232.22	
-Office Admin.	1,420.55		65.00	1,050.00	-305.55	
Secretarial Science:						
-Accounting	1,334.46	2,252.66	65.00	1,050.00	-219.46	-1,137.66
-Data Proc.	1,398.61	2,316.81	65.00	1,050.00	-283.61	-1,201.81
-Shorthand	1,362.73	2,364.64	65.00	1,050.00	-247.73	-1,249.64
Liberal Education:						
Pre-University						
-Remedial	1,109.56		65.00	1,050.00	5.44	
-Grade 10	1,203.79		65.00	1,050.00	- 88.79	
-Grade 11	1,027.71	1,437.75	65.00	1,050.00	87.29	- 322.75
-Grade 12	947.26	1,432.61	65.00	1,050.00	167.74	- 317.61
Journalism:						
-Year 1	1,491.20		70.00	1,050.00	-371.20	
-Year 2	1,449.44		70.00	1,050.00	-329.44	
Rec. Leadership:						
-Year 1	1,197.15		70.00	1,050.00	- 77.15	
-Year 2	1,275.02	1,460.90	70.00	1,050.00	-155.02	- 340.90
Technology:						
Automotives	2,332.95		70.00	1,050.00	-1,212.95	
Cooking	1,315.91		60.00	1,050.00	-205.91	
Drafting	2,184.12		70.00	1,050.00	-1,064.12	
Electronics	1,983.06		70.00	1,050.00	-863.06	
Voc. Ag. (Yr. 2)	1,772.68		70.00	1,050.00	-652.68	
Welding	1,332.75		90.00	-	-1,242.75	

APPENDIX D

MOUNT ROYAL

MOUNT ROYAL COST ANALYSIS

The cost analysis conducted on Mount Royal Junior College for the year 1968-69 was essentially the same as that conducted the previous year. Ledger data, however, was difficult to categorize under headings identical to the original study, as the bookkeeping at Mount Royal was undergoing a transition during the time of the study. Various kinds of costs were subsumed under different ledger headings for different parts of the academic year. The co-operation of the staff of the Business Office at Mount Royal was extremely valuable in transposing various costs and in supplying payroll and operating expense data to the study.

In the 1967-68 study, expenses not directly attributable to instruction were categorized as Overhead, Indirect Cost, and Supporting Services. Although it was considered desirable to have an overall basis of comparison between the two studies conducted on Mount Royal Junior College, the design of this particular study necessitated that a basis of intercollege comparison be built into the design. In consequence, costs not directly attributable to instruction were categorized as Implementary and Indirect in the 1968-69 Mount Royal study to facilitate comparison and aggregation of costs in all Junior Colleges.

UTILIZATION OF SERVICES

1. Library

Mr. J. A. Brown, Chairman of the Library Services, was most co-operative

in supplying all necessary information about the operation of the Library. Although no hard data were available regarding the utilization of the Library, Mr. Brown and his staff, on the basis of available data, supplied the information contained below regarding use of the Library by students in the various programs of the College:

ESTIMATED UTILIZATION OF LIBRARY FACILITIES
BY STUDENTS IN MOUNT ROYAL COLLEGE

Program	Percentage of Utilization
High School (D)	15
University Transfer (A,B,C,S)	35
Career (E)	20
Other	5

It is of interest to compare the estimated utilization with the estimated gross (capital and non-capital) expenditure on Library books during the 1968-69 academic year.

ESTIMATED CAPITAL AND NON-CAPITAL EXPENDITURE
ON LIBRARY BOOKS - MOUNT ROYAL JUNIOR COLLEGE
ACADEMIC YEAR 1968 - 69

Program	Estimated Expenditure	As Percentage
University Transfer	14,774	37.4
High School	161	.4
Careers	9,613	24.3
Upgrading (1)	8,891	22.5
General	6,101	15.4
Total	39,540	100

As the High School program is being phased out of the College, the low expenditure and proportionally higher usage is understandable. Estimated utilization by program corresponds closely in both Career and University Transfer.

Upgrading refers to the Library's effort to make the facilities into those of a comprehensive library rather than a collection of reference works in relatively discreet subject areas courses with estimated expenditure. The category termed General refers to expenditure on cataloguing and processing books and periodicals necessary for the operation of the library.

2. A.V. Services

In interviews with the A.V. Staff, it was determined that this branch was operating at an optimum level with full utilization of the equipment and personnel. The pressure of supplying and servicing equipment precluded estimates of percentage utilization of services by any given program. Expanded space, additional equipment, and more staff are necessary if this branch is to grow with the college and supply services at the present efficiency.

3. Residences and Enterprises

Cost data relating to College residences and enterprises are given in the following tables. The generalization that the snack bar and bookstore will show a profit while the residences and dining room will show a loss holds true for 1968-69 as it did for 1967-68. However, the bookstore shows a narrow margin of profit which would be accounted for by

administrative and operational costs subsumed under other categories of Implementary Expenses. Although the snack bar shows a profit of $10,231, this is more than compensated for by the loss of $14,697 incurred in the operation of the dining room.

Residences, operating under a loss of $28,213, would seem to be as necessary as they are costly if a Junior College is to serve more than an immediate central area. It might be noted that this loss was accurately estimated in the budget and may be expected to remain fairly constant, with incremental increases corresponding to the cost of living.

ESTIMATED REVENUE AND EXPENDITURE OF SNACK BAR
MOUNT ROYAL JUNIOR COLLEGE 1968-69

Revenue	42,121
Expenditure	31,890
Profit	+ 10,231

ESTIMATED REVENUE AND EXPENDITURE OF DINING ROOM
MOUNT ROYAL JUNIOR COLLEGE 1968-69

Revenue	57,155
Expenditure	71,852
Loss	- 14,697

ESTIMATED REVENUE AND EXPENDITURE OF BOOK STORE
MOUNT ROYAL JUNIOR COLLEGE 1968-69

Revenue	119,651
Expenditure	119,212
Profit	+ 439

ESTIMATED REVENUE AND EXPENDITURE OF RESIDENCES
MOUNT ROYAL JUNIOR COLLEGE 1968-69

Revenue	40,628
Expenditure	68,841
Loss	- 28,213

TABLE XXVI

DETAILS OF INDIRECT EXPENDITURES
MOUNT ROYAL
JUNIOR COLLEGE

Student Affairs Scholarships and Grants	41,703
Research and Development	14,472[5]
Lab. supplies	44,350[6]
Office of the Vice-President of Instruction	52,358
Miscellaneous or general	9,017
Released time	72,396[7]
Total	234,296
Cost per pupil	176

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[5] Cost of Research and Development is mainly the Research Officer's salary.

[6] Expense for laboratory supplies represents a major expenditure for arts and science which is not likely to be replicated until any major expansion.

[7] Major expenditure for released time only in Nursing. In other departments it represents 50% of a twelve hour lecture week for the Head of the department.

TABLE XXVII

DETAILS OF COURSE COSTS
MOUNT ROYAL JUNIOR COLLEGE

Course	Enrolment	Cost
Accounting 100	90	$ 51
Accounting 101	68	45
Biology 110	219	57
Biology 111	97	37
Biology 114	43	95
Biology 115	23	157
Biology 200	122	73
Biology 210	18	153
Biology 214	27	144
Business 110	70	92
Business 111	58	112
Business 222	53	66
Business 223	39	37
Business 236	16	185
Business 237	20	148
Business 239	53	33
Chemistry 110	19	169
Chemistry 111	5	483
Chemistry 112	14	173
Chemistry 230	51	183
Chemistry 250	6	829
Community Service 110	150	45
Community Service 111	136	62
Community Service 210	32	98
Community Service 211	30	104
Drama 110	3	303
Drama 111	10	91
Drama 114	9	300
Drama 115	6	228
Drama 210	2	455
Economics 110	185	44
Economics 111	86	68
Economics 200	121	72

DETAILS OF COURSE COSTS (continued)

Course	Enrolment	Cost
Eng. 110	19	76
Eng. 111	9	160
Eng. 120	10	144
Eng. 209	13	110
Eng. 210	14	69
Eng. 211	3	320
Eng. 214	12	186
Eng. 215	8	278
Eng. 252	7	107
Eng. 253	2	374
English 100	119	76
English 101	103	77
English 110	467	45
English 111	349	62
English 210	113	73
English 211	100	83
English 212	33	36
English 213	39	31
English 214	6	225
English 215	4	337
English 231	4	360
English 240	438	60
French 110	16	150
French 111	14	143
French 200	39	152
French 210	2	
French 221	14	115
Fldw. 100	56	112
Fldw. 101	24	163
Geography 110	65	160
Geography 111	21	72
Geography 210	8	379
Geography 211	7	174
Geography 201	91	101
Geography 113	16	92

DETAILS OF COURSE COSTS (continued)

Course	Enrolment	Cost
Geology 110	42	70
Geology 111	38	84
Geology 210	14	206
Geology 211	13	159
Geology 201	28	266
German 100	4	379
German 200	6	629
Government 112	45	95
History 116	71	50
History 117	64	55
History 205	119	119
History 212	127	45
History 213	127	45
History 220	18	128
History 221	18	128
Hurl. 100	97	46
Interior Design 110	67	14
Interior Design 111	60	15
Interior Design 112	53	27
Interior Design 113	68	19
Interior Design 114	59	43
Interior Design 115	50	80
Interior Design 116	54	34
Interior Design 118	74	53
Interior Design 119	59	54
Interior Design 210	17	54
Interior Design 211	14	76
Interior Design 212	17	19
Interior Design 213	13	25
Interior Design 214	16	251
Interior Design 215	11	228
Interior Design 216	18	18
Interior Design 217	15	21
Interior Design 218	16	99
Interior Design 219	13	122
Interior Design 220	17	93
Interior Design 221	15	106
Interior Design 222	17	15
Interior Design 223	12	26

DETAILS OF COURSE COSTS (continued)

Course	Enrolment	Cost
Journalism 110	43	41
Journalism 111	43	41
Journalism 210	9	99
Journalism 211	8	111
Journalism 220	9	231
Journalism 221	11	81
Mathematics 100	93	87
Mathematics 101	10	537
Mathematics 102	71	53
Mathematics 103	42	103
Mathematics 107	13	111
Mathematics 111	9	83
Mathematics 112	47	53
Mathematics 113	20	69
Mathematics 120	17	109
Mathematics 121	11	167
Mathematics 211	102	138
Mathematics 213	8	157
Mathematics 220	5	519
Mathematics 221	5	221
Mathematics 225	5	252
Mathematics 236	22	100
Mathematics 239	42	90
Nursing 110	28	300
Nursing 111	43	464
Nursing 112	26	598
Nursing 113	19	355
Nursing 114	24	238
Nursing 116	26	241
Philosophy 110	20	109
Philosophy 111	27	322
Philosophy 210	9	323
Philosophy 211	13	52
Philosophy 241	79	175
Phys. Ed. 130	2	
Phys. Ed. 146	2	
Phys. Ed. 170	47	16
Phys. Ed. 171	49	76
Phys. Ed. 174	45	95
Phys. Ed. 175	44	97
Phys. Ed. 177	29	
Phys. Ed. 178	51	52
Phys. Ed. 203	45	65
Phys. Ed. 204	18	461
Phys. Ed. 239	22	

DETAILS OF COURSE COSTS (continued)

Course	Enrolment	Cost
Phys. Ed. 242	17	126
Phys. Ed. 243	10	215
Phys. Ed. 246	19	42
Phys. Ed. 270	14	122
Phys. Ed. 271	11	133
Phys. Ed. 205	17	86
Phys. Ed. 207	7	244
Phys. Ed. 209	57	40
Physics 200	9	261
Pol. Sc. 110	44	67
Pol. Sc. 111	42	99
Pol. Sc. 200	82	125
Pol. Sc. 210	8	178
Pol. Sc. 211	8	320
Psychology 110	356	33
Psychology 111	315	32
Psychology 202	341	34
Psychology 210	123	30
Psychology 211	61	50
Psychology 215	20	67
Psychology 216	19	70
Radio 110	18	77
Radio 111	23	61
Radio 202	21	66
Radio 203	23	61
Radio 204	4	348
Radio 205	5	279
Radio 210	4	348
Radio 211	5	279
Recreation 110	60	45
Recreation 111	60	45
Recreation 130	58	119
Recreation 131	47	147
Recreation 210	14	84
Recreation 211	11	212
Recreation 240	41	45
Recreation 241	37	89

DETAILS OF COURSE COSTS (Continued)

Course	Enrolment	Cost
Sociology 110	325	34
Sociology 111	254	39
Sociology 202	294	71
Sociology 210	72	58
Sociology 211	51	61
Sociology 212	34	30
Sociology 213	60	22
Sociology 230	6	111
Scrt. 101	101	40
So. Sc. 100	28	26
So. Sc. 101	24	30
So. Sv. 100	20	103
So. Sv. 101	15	69
Speech 110	173	22
Speech 111	165	23
SSAD 100	19	54
SSAD 101	14	74
Sec. Sc. 110	32	94
Sec. Sc. 121	72	45
Sec. Sc. 130	14	214
Sec. Sc. 131	9	333
Sec. Sc. 180	68	24
Sec. Sc. 181	63	48
Sec. Sc. 135	93	35
Sec. Sc. 136	21	34
Sec. Sc. 210	60	27
Religious Education 110	4	331
Religious Education 111	4	221
Religious Education 213	6	221
Religious Education 222	9	147
Religious Education 231	2	662
Religious Education 232	4	221
Religious Education 233	4	109
Religious Education 240	6	221
Religious Education 241	7	189
Religious Education 250	5	265
Religious Education 251	5	265

TABLE XXVIII

DETAILS OF IMPLEMENTARY EXPENDITURES
MOUNT ROYAL
JUNIOR COLLEGE

President's Office	41,823
Business Office	59,105
Registrar's office	67,126
Steno pool	21,799
Services[1]	56,251
Travel[2]	1,077
Capital Contributions	11,532
Information Service	59,918
Maintenance	121,354
Caretaking Utilities	
Rental	
Insurance	24,989
Health Services	10,995
Counselling	51,074
Library and A.V. Services	73,602
Library books[3]	11,318
Loss from College Enterprises[4]	32,240
	644,203
Cost per pupil	48,448

[1] Services include duplicating, telephone, postage, etc.

[2] Travel is now covered under Vice-President's office (since January, 1969). This cost is only for the months of September to December, 1968.

[3] See appendix for actual Library expenditure. The above sum represents estimated non-capital expenditure on periodicals, etc.

[4] See appendix for revenue and expenditures of all college enterprises.

PROGRAM A

GENERAL B.A.

English 240	60
1 Course from Group 1	182
1 Course from Group II	243
2 Courses from Group 1 or	364
Group II or	486
Group 1/Group II	424

	Direct Instruction		Implementary		
Average cost of program	909	+	484	+	176
Cost of program	849	+	484	+	176
Cost of program	971	+	484	+	176

Costs for Group I or Group II courses are average costs.

GENERAL B. SC.

English 240	60
1 Course from Group I	182
1 Course from Group II	243
2 Courses from Group 1 or	364
Group II or	486
Group I/Group II	424

909	+	484	+	176
849	+	484	+	176
971	+	484	+	176

Costs for Group I or Group II courses are average costs.

PROGRAM FOR FACULTY OF EDUCATION

	Direct Instruction		Implementary		Indirect
English 240	60				
Psychology 202	34				
Sociology 202	71				
2 courses from Section I or	264				
Section II	486				
Cost of program	529	+	484	+	176
or	621	+	484	+	176

Section I or Section II course costs have been averaged.

FACULTY OF HOUSEHOLD ECONOMICS

English 240	60				
Chemistry 250	829				
Economics 200	72				
2 courses from Group 1	364				
	1,325	+	484	+	176

Group I course costs have been averaged.

PROGRAM FOR FACULTY OF PHYSICAL EDUCATION

English 240	60
Chem 250 or Biology 200	451
Social Science	53
Physical Education 203	65
Physical Education 204	461
Physical Education 205	86
Physical Education 207	244
Physical Education 209	40

1,460 + 484 + 176

PROGRAM FOR AGRICULTURE OR PRE-VETERINARY

English 240	60
Economics 200	72
Biology 200	73
Chemistry 230	183
Mathematics 211	138

453 + 484 + 176

PROGRAM FOR PRE-MEDICINE OR PRE-DENTISTRY

English 240	60
Chemistry 230	183
Mathematics 211	138
Biology 200	73
One option from Group I	182

636 + 484 + 170

Group I course costs have been averaged.

ARTS AND SCIENCE WITH MAJOR IN INTERIOR DESIGN

First Year

FIRST SEMESTER

English 110	45
French 110	150
Sociology 110	34
Geography 110	160
Interior Design 110	14
Interior Design 118	53
Cost for semester	456

SECOND SEMESTER

English 111	62
French 111	143
Sociology 111	39
Geography 111	84
Interior Design 111	15
Interior Design 113	19
Cost for semester	362
Cost for year	818

Second Year

FIRST SEMESTER

English 210	73
History 112	45
Psychology 110	33
Interior Design 218	99
Interior Design 220	93
Cost for semester	343

SECOND SEMESTER

English 211	83
Government 112	95
Psychology 111	32
Interior Design 219	122
Interior Design 221	106
Cost for semester	438
Cost for year	781

ARTS AND SCIENCE WITH MAJOR IN JOURNALISM

First Year

FIRST SEMESTER		SECOND SEMESTER	
English 110	45	English 111	62
Economics 110	44	Economics 111	68
Journalism 110	41	Journalism 111	41
Political Science 110	67	Political Science 111	99
Psychology 110	33	Psychology 111	32
Cost for semester	230	Cost for semester	302
		Cost for year	532

Second Year

FIRST SEMESTER

One of: History 212 History 220 History 116	74 (average cost)
English 210 Journalism 220 Sociology 110	
One of: Geology 110 Geography 110	115 (average cost)
Cost of semester	527

SECOND SEMESTER

One of: History 213 History 221 History 117	76 (average cost)
English 211 Journalism 221 Sociology 111	
One of: Geology 111 Geography 111	78 (average cost)
Cost of semester	357
Cost of year	884

ARTS AND SCIENCE WITH MAJOR IN OPTOMETRY

First Year

FIRST SEMESTER

English 110	45
Mathematics 120	109
Biology 110	57
Chemistry 110	169
Speech 110	22
Cost for semester	402

SECOND SEMESTER

English 111	62
Mathematics 121	167
Biology 114	95
Chemistry 111	483
Physical Education	40
Cost of semester	847
Cost of year	1,249

ARTS AND SCIENCE WITH MAJOR IN PETROLEUM LAND MANAGEMENT

First year

FIRST SEMESTER		SECOND SEMESTER	
Engineering 110	76	Engineering 111	160
English 110	45	English 111	62
Geology 210	206	Geology 211	159
Sociology 110	34	Philosophy 111	322
History 212	45	Mathematics 103	103
Cost of Semester	406	Cost for semester	806
		Cost for year	1,212

Second Year

FIRST SEMESTER		SECOND SEMESTER	
Accounting 222	66	Accounting 223	37
Statistics 236	72	Economics 111	68
Economics 110	44	English 211	83
Mathematics 120	109	Government 112	95
Psychology 110	33	Speech 111	23
		English 231	360
Cost for semester	324	Cost for semester	666
		Cost for year	990

ARTS AND SCIENCE WITH MAJOR IN PHYSICAL EDUCATION

First year

FIRST SEMESTER

English 110		45	
Psychology 110		33	
Speech 110		22	
Sociology 110		34	
Physical Education 170		16	
One of:	Physical Education 174 Physical Education 178		137 (average cost)
Cost for semester		287	

SECOND SEMESTER

English 111		62	
Psychology 111		32	
Speech 111		23	
Sociology 111		39	
Physical Education 171		76	
One of:	Physical Education 177 Physical Education 181		+ (not offered in 1968-69)
Cost for semester		232+	
Cost for year		519	

Second year

FIRST SEMESTER

Biology 110		57	
One of:	English 210 Sociology 210 Psychology 210 French 110	78 (average cost)	
One of:	History 116 History 212	48 (average cost)	
Physical Education 270		122	
Physical Education	Activity course approved by advisor		40 (estimated)
Cost for semester		345	

SECOND SEMESTER

Biology 111	37
One of: English 211 Sociology 211 Psychology 211 French 111	84 (average cost)
One of: History 117 Government 212	75 (average cost)
Physical Education 271	133
Physical Education activity course approved by advisor	40 (estimated)
Cost for semester	369
Cost for year	714

ARTS AND SCIENCE WITH MAJOR IN RECREATION AND OUTDOOR EDUCATION

First year

FIRST SEMESTER

English 110	45	
Psychology 110	33	
Sociology 110	34	
Speech 110	22	
Recreation 110	45	
One of: Physical Education activity class	40	
Religion 160	*	(not offered in 1968 - 69)
Religion 220	*	
Cost for semester	219	

SECOND SEMESTER

English 111	62	
Psychology 111	32	
Sociology 111	39	
Speech 111	23	
Recreation 111	45	
One of: Physical Education activity	40	
Religion 160	*	(not offered in 1968-69)
Religion 220	*	
Cost for semester	241	
Cost for year	460	

Second Year

FIRST SEMESTER

English 210	73	
One of: History 116 History 212	49	(average cost)
Biology 110	57	
Recreation 240	45	
One of: Psychology 210 Sociology 210	44	(average cost)
Cost for semester	268	

SECOND SEMESTER

English 211	
One of: History 117 Government 112	75 (average cost)
Biology 114	95
Recreation 241	89
One of: Psychology 211 Sociology 211	56 (average cost)
Cost for semester	398
Cost for year	666

ARTS AND SCIENCE WITH MAJOR IN RELIGIOUS EDUCATION

First Year

FIRST SEMESTER

History 116	50
Psychology 110	33
Biology 110	57
Religious Education 240	221
Religious Education 160	¢ (not offered
Religious Education 220	¢ in 1968-69)
Cost for semester	361¢

SECOND SEMESTER

History 117	55
Psychology 111	32
Biology 111	37
Religious Education 241	189
Religious Education 265	¢ (not offered in 1968-69)
Speech 111	23
Cost for semester	336¢
Cost for year	697¢

Second year

FIRST SEMESTER

English 210	73
Sociology 110	34
Religious Education 110	331
Religious Education 232	221
Religious Education 250	265
Recreation 140	* (not offered in 1968-69)
Cost for semester	924¢

SECOND SEMESTER

English 211	83
Sociology 111	39
Religious Education 111	221
Religious Education 213	221
Religious Education 231	662
Religious Education 233	109
Religious Education 251	265

Cost per semester	1,600
Cost per year	2,524¢

AGRO - BUSINESS

First Year

FIRST SEMESTER

Accounting 100	51	
Agro-business 100	-	(not offered)
Mathematics 100	87	
Chemistry 110	169	
Economics 110	44	
English 100	76	
Cost per semester	427	

SECOND SEMESTER

Accounting 101	45	
Agro-business 101	-	(not offered)
Mathematics 101	87	
Chemistry 111	483	
Economics 111	68	
English 101	77	
Cost for semester	760	
Cost for year	1,187	

BROADCASTING

First Year

FIRST SEMESTER

English 100	45
Speech 110	22
Journalism 110	41
Radio 110	77
Radio 202	66
Human Relations 100	41
Cost for semester	292

SECOND SEMESTER

English 101	62
Speech 111	23
Journalism 111	41
Radio 111	61
Radio 203	61
Social Relations 101	40
Cost for semester	288
Cost for year	580

BUSINESS ADMINISTRATION

First year

FIRST SEMESTER

Accounting 100	51
Business 110	92
Economics 110	44
English 100	76
Human Relations 100	41
Mathematics 100	87
Cost for semester	391

SECOND SEMESTER

Accounting 101	45
Business 111	112
Economics 111	68
English 101	77
Social Relations 101	40
Mathematics 101	87
Cost for semester	429
Cost for year	820

INTERIOR DESIGN

First year

FIRST SEMESTER

English 100	76
Human Relations 100	41
History 116	50
Interior Design 110	14
Interior Design 112	27
Interior Design 114	43
Interior Design 116	34
Interior Design 118	53
Cost for semester	338

SECOND SEMESTER

English 101	77
Social Relations 101	40
History 117	55
Interior Design 111	15
Interior Design 113	19
Interior Design 115	50
Interior Design 119	54
Cost for semester	340

Cost for year 678

Second year

FIRST SEMESTER

Geography 110	160
Interior Design 200	-
Interior Design 210	54
Interior Design 212	19
Interior Design 214	251
Interior Design 216	18
Interior Design 218	99
Interior Design 220	93
Interior Design 222	15
Cost for semester	709

SECOND SEMESTER

Geography 111	72
Interior Design 211	76
Interior Design 213	25
Interior Design 215	228
Interior Design 217	21
Interior Design 219	122
Interior Design 221	106
Interior Design 223	26
Cost for semester	676

Cost for year 1,385

JOURNALISM

First year

FIRST SEMESTER

English 100	76
Speech 110	22
Journalism 110	41
Pol. Sc. 110	67
Human Relations 100	41
Cost for semester	247
Cost for year	527

SECOND SEMESTER

English 101	77
Speech 111	23
Journalism 111	41
Pol. Sc. 111	99
Social Relations 101	40
Cost for semester	280

Second year

FIRST SEMESTER

English 210	73
Journalism 210	99
Journalism 220	231
History 220	128
Geography 110	160
Cost for semester	691
Cost for year	1,166

SECOND SEMESTER

English 211	83
Journalism 211	111
Journalism 221	81
History 221	128
Geography 111	72
Cost for semester	475

NURSING
(Diploma Program)

First year

FIRST SEMESTER	
Nursing 110	300
Biology 110	57
Psychology 110	33
English 110	45
Cost for semester	435
Cost for year	1,088

SECOND SEMESTER	
Nursing 111	464
Biology 114	95
Psychology 111	32
English 111	62
Cost for semester	653

Second year

FIRST SEMESTER	
Biology 115	157
Nursing 112	598
Sociology 110	34
Cost for semester	789
Cost for year	1,283

SECOND SEMESTER	
Nursing 113	355
Sociology 111	39
Elective	100
Cost for semester	494

RECREATION AND OUTDOOR EDUCATION

First year

FIRST SEMESTER

English 100	76
Recreation 110	45
Recreation 130	119
Speech 110	22
Biology 110	57
one of: Phys. Ed.	40
Religion 160	
Religion 220	
Cost for semester	319

SECOND SEMESTER

English 101	77
Recreation 111	45
Recreation 131	147
Speech 111	23
Biology 111	37
one of: Phys. Ed.	40
Religion 160	
Religion 220	
Cost for semester	369

(not given in 1968-69)

Cost for year 688

RELIGIOUS EDUCATION

Second year

FIRST SEMESTER

Biology 110	57	
Psychology 110	33	
Religious Education 110	221	(est.)
Religious Education 232	221	
Religious Education 250	265	
Recreation 141	98	(est.)
Cost for semester	895	

SECOND SEMESTER

Biology 111	37
Psychology 111	32
Religious Education 111	221
Religious Education 213	221
Religious Education 231	662
Religious Education 233	109
Religious Education 251	265
Cost for semester	1,547

Cost for year 2,442

TABLE XXIX

PER PUPIL PROGRAM COSTS

MOUNT ROYAL JUNIOR COLLEGE

Program	Implementary Expenses	Indirect Cost of Instruction	Direct Cost Min.	Direct Cost Max.	Cost/Pupil Min.	Cost/Pupil Max.
Program A,C,S UNIVERSITY TRANSFER PROGRAMS:						
General B.A.	484	176	849	971	1,509	1,631
General B.Sc.	484	176	849	971	1,509	1,631
Faculty of Education	484	176	529	621	1,189	1,281
Faculty of Household Economics	484	176	1,325		1,985	
Faculty of Physical Education	484	176	1,460		2,120	
Agriculture or Pre-Veterinary	484	176	453		1,113	
Pre-Medicine or Pre-Dentistry	484	176	636		1,296	
Program B HIGH SCHOOL PROGRAM FOR STUDENTS COMPLETING UNIVERSITY DEGREES OUTSIDE ALBERTA:						
Arts & Science Programs						
General Year 1	484	176	945	1,323	1,605	1,983
General Year 2	484	176	868	1,372	1,528	2,032
Major in Applied Soc. Sc.	484	176	446		1,160	
Major in Soc. Sc. Year 2	484	176	585		1,245	
Major in Architecture Year 1	484	176	1,161		1,821	
Major in Business Education Year 1	484	176	723		1,383	
Major in Business Education Year 2	484	176	707		1,367	
Major in Engineering Year 1	484	176	1,740		2,400	
Major in Engineering Year 2	484	176	2,648		3,308	
Major in Interior Design Year 1	484	176	818		1,478	
Major in Interior Design Year 2	484	176	718		1,378	
Major in Journalism Year 1	484	176	532		1,192	

GENERAL FOOTNOTE ON DIRECT COST OF INSTRUCTION:

In all programs in which options are offered, costs represent: average cost - a combination of average costs for the groups of options offered or the average cost of two or more specificed options; maximum cost - the average of the more expensive group of options offered (usually Science); Minimum cost - the average of the less expensive group of options offered (usually Social Sciences and Humanities).

Continued ...

TABLE XXIX CONTINUED

PER PUPIL PROGRAM COSTS

MOUNT ROYAL JUNIOR COLLEGE

Program	Implementary Expenses	Indirect Cost of Instruction	DirectoCost		Cost/Pupil	
			Min.	Max.	Min.	Max.
Major in Journalism Year 2	484	176		884		1,544
Major in Optometry Year 1	484	176		1,249		1,909
Major in Pet. Land Man. Year 1	484	176		1,212		1,872
Major in Pet. Land Man. Year 2	484	176		990		1,650
Major in Physical Education Year 1	484	176		519		1,179
Major in Physical Education Year 2	484	176		714		1,374
Major in Recreation & Outdoor Educ. Year 1	484	176		460		1,120
Major in Recreation & Outdoor Educ. Year 2	484	176		660		1,320
Major in Religious Education Year 1	484	176		694≠*		1,357
Major in Religious Education Year 2	484	176		2,524≠		3,184
Program E - CAREER PROGRAMS						
Agro-Business	484	176		1,187		1,847
Broadcasting 1	484	176		580		1,240
Business Administration 1	484	176		820		1,480
Interior Design 1	484	176		678		1,338
Interior Design 2	484	176		1,385		2,045
Journalism 1	484	176		527		1,187
Journalism 2	484	176		1,166		1,826
Nursing 1	484	176		1,088		1,748
Nursing 2	484	176		1,283		1,943
Recreation & Outdoor Educationl1	484	176		688		1,348
Religious Education 2	484	176		2,442		3,102